

MISCELLANEA NATURALIA,

SIVE

DISSERTATIONES VARIÆ

AD

HISTORIAM NATURALEM

SPECTANTES.

AUTORE

A. H. HAWORTH,

LIN. SOC. LONDINI SOCIO.

LONDINI:

TYPIS J. TAYLOR.

MDCCCIII.

INTRODUCTION.

THE following Dissertations were originally intended to be given, one by one, to the Linnæan Society of London; but I now prefer the present mode of laying them before the public. They are the productions of the leisure hours of several years; and the result of considerable observation and study; and horticultural amusement.

In the course of the Dissertations will probably be given the following subjects:

1. *Aves Britannicæ*, seu Synopsis Avium Britannicarum, with Remarks.
2. *Reptilia Britannica*, with Remarks.
3. *An Account of the Genus Crassula.*
4. *An Account of the Genus Euphorbia.*
5. *An Account of the Genus Cactus*:—and other pieces.

The descriptions will be chiefly derived from original living specimens in my own collection. No apology, I

trust, will be thought necessary for publishing such unconnected Miscellanies, after the Natural History World has so well received the *Collectanea*, *Fragmenta*, and *Miscellanea* of the celebrated Jacquin; and after Scopoli's charming *Deliciæ Faunæ et Floræ Insubricæ* has been so much approved.

To each separate Dissertation I have given a short Preface, explanatory of its nature and contents; and at the end of that Preface, a List of all the Authorities cited in the Dissertation, alphabetically arranged; for the convenience of such of my readers as may wish for further information concerning such authorities. An explanatory List of Abbreviations used, is also added after the Preface, in each Dissertation.

DISSERTATIO PRIMA;

OR,

A NEW ARRANGEMENT

OF THE

GENUS MESEMBRYANTHEMUM;

CONTAINING

A FULL ACCOUNT OF ALL THE SPECIES HITHERTO DISCOVERED, WITH COMPLETE DESCRIPTIONS OF SUCH OF THEM AS HAVE NOT BEEN DESCRIBED BEFORE;

ALSO,

THEIR PLACES OF GROWTH, DURATION,

AND

TIMES OF FLOWERING.

TO ALL CULTIVATORS

OF

SUCCULENT PLANTS

THE FOLLOWING EXTENSIVE AND IMPROVED ACCOUNT

OF THE

SUCCULENT GENUS

MESEMBRYANTHEMUM

IS MOST RESPECTFULLY INSCRIBED

BY

THE AUTHOR.

Congenial passions souls together bind,
And every calling mingles with its kind.

LEWIS.

PREFACE.

NINE years and upwards have now elapsed since my *Observations* on the Genus *Mesembryanthemum* were submitted to the test of public examination.

This period has not only much increased our knowledge of the old sorts, but enriched my collection, and the following arrangement, with many undescribed species, and numerous varieties of equal novelty. Various kinds, whose flowers were at that time unknown to me, are here described at large; *capite ad calcem.* Many of these have probably as yet been viewed by no European but myself. Yet after all the pains and time I have expended in this my favourite botanical pursuit, it still remains to be regretted, that the fructifications of a few sorts, are even now enveloped in the same impenetrable darkness as before. Nevertheless, I do not despair of the arrival of that day, when we shall have beheld, attired in all the beauty of their new-blown flowers; every one of the species I have here described: because not a single year has yet revolved, since this subject made good its claims to my attention, that has not rewarded me by unfolding the blossoms of several, whose fructifications were before unknown.

As some of the sections I published in my *Observations* on this Genus, did not altogether meet the public approbation, I have rearranged and new modelled the whole in a manner, that

in

in all probability will admit of no further improvement or alteration. I could not however entirely abandon, with any kind of propriety, the sections *Annua* and *Biennia*; although they were very much disliked by certain *periodical*, but *pseudo-botanical* critics: for notwithstanding the difficulty which may occasionally exist in some departments of Botany, of discriminating between an annual and perennial, or shrubby plant: it is well known, by every child in that science; to be egregiously otherwise in *Mesembryanthema*.

Such of my specific names as ended in *ides*, being also disliked, are here discarded; and less objectionable, and in some instances more applicable ones; adopted in their stead.

The various species (*a*) which formed the opprobrious section in my *Observations*, called *Incertæ Tribus*, the reader will now have the satisfaction of finding regularly disposed under characteristic and appropriate sections, in some or other of the following pages; which it is here requisite to observe, contain no species or variety but what I have not only *beheld alive*, but absolutely *cultivated myself*; except a few, to make my arrangement as perfect as possible, which I have taken up from *Aiton*, *Wildenow*, *Thunberg*, or others; and properly acknowledged: and also except *M. fibuliforme*, *heterophyllum*, and *marginatum*; which last three singular species, the lover of succulent plants, must now regret to learn, no longer exist in Great Britain, either in a living or dried state: nor was any drawing of any one of them ever made.

With infinite difficulty and unwearied perseverance, I have collected together in a living state, above one hundred and sixty species and many varieties, a number not only calculated to surprise both the Botanist and Horticulturist, but to create a

(*a*) Except *Hermanni* and *muscosum*, which prove to be species of *Crassula*.

disbelief

disbelief of their reality and existence; if it was not in my power to exhibit at any time, the originals themselves in a living state: and thereby effectually remove, from the mind of every sceptical Naturalist, all doubts that can possibly be entertained on that head.

Such of the species in the following pages, whose fructifications were sufficiently described in my *Observations*, I have only here given the specific characters of: which however, in various instances, I have been able to improve; but to all the others, I have added, as far as possible, a separate description of the parts of fructification, and every other necessary information; such as their loci natales, duration, times of flowering, &c. To my former synonyma I have added many, all carefully examined; especially the very essential ones of *Dillenius* and *Bradley*, &c. but repeated none that I have before published:—so that this Dissertation will form a very useful Appendix of new matter, to my former labours on this singular and extensive Genus; without recapitulating any unnecessary particulars that have already been submitted to public inspection.

All the species and varieties in the following arrangement, which do not also occur in my *Observations* on this genus; are distinguished from the others by an asterisk under their specific names in the margins.

Little Chelsea,
July 1803.

AUCTORES *in hac Dissertatione citati, qui non citati sunt in Observationibus meis ad* MESEMBRYANTHEMUM.

1. *Andrews Bot. Rep.* The Botanical Repository, comprising coloured Engravings of new and rare Plants only, with Botanical Descriptions, &c. by H. Andrews. London, 1797, seq. 4to.
2. *Brad. Suc.* The History of Succulent Plants. Decad. 10. by Richard Bradley, F. L. S. ed. 2. 4to. London, 1739.
3. *Breyn. Cent.* Jacobi Breynii Gedanensis exoticarum aliarumque minus cognitarum Plantarum Centuria prima. Fol. Gedani, 1679.
4. *Dill. Elth.* Hortus Elthamensis, seu Plantarum rariorum quas in Horto Elthami coluit Vir ornatissimus et præstantissimus Jacobus Sherard. Auctore Johanne Jacobo Dillenio, M. D. Fol. 2 vol. Lond, 1732.
5. *Donn Hort. Cantab.* Hortus Cantabrigiensis; or, A Catalogue of Plants, indigenous and exotic, cultivated in the Botanic Garden, Cambridge; by James Donn, Curator. Ed. 2. Cambridge, 1800. 8vo.
6. *Gært.* Josephus Gærtner de Fructibus et Seminibus Plantarum. Stutgardiæ, 4to. 1788—1791.
7. *Haworth Mesemb.* Observations on the Genus Mesembryanthemum, containing scientific Descriptions of above 130 Species, with Directions for their Management, &c. by A. H. Haworth. London, 1794-5. 8vo. 2 parts.
8. *Jacq. Coll.* Nicolai Jos. Jacquin Collectanea ad Botanicam, Chemiam et Historiam Naturalem spectantia, cum Figuris. Vindobonæ, 4to. 1786, seq.
9. *Jacq. Frag.* Fragmenta Botanica. Fol. Viennæ, 1800.
10. *Jacq. Hort. Schœn.* Plantarum rariorum Horti Cæsarii Schœnbrunnensis Descriptiones et Icones, Opera et Sumptibus Nicolai Josephi Jacquin. Viennæ, 1797. Folio.
11. *Jacq. Hort. Vindob.* Hortus Vindobonensis, seu Plantarum rariorum quæ in Horto Botanico Vindobonensi, &c. coluntur. Cura et Sumptibus Nicolai Josephi Jacquin, vol. 3. Fol. Vindobonæ, 1776.
12. *Jacq. Icon.* Icones Plantarum editæ a Nicolao Josepho Jacquin, Botanices Professore. Vindobonæ, Fol. 1781, seq.
13. *Lamarck Encycl.* Tableau Encyclopédique et Méthodique de trois Regnes de la Nature. Par le Citoyen Lamarck. Paris, 1793, &c. 4to.
14. *Linn. Hort. Clif.* Hortus Cliffortianus, Plantas exhibens

quas

quas in Hortis tam vivis quam siccis, Hartcampii in Hollandia, Auctore Carolo Linnæo. Amstelodami. Fol. 1737.

15. *Linn. Hort. Ups.* Caroli Linnæi Hortus Upsaliensis. Stockholmiæ, 1748. 8vo.

16. *Mart. Dec.* Jo. Martyn Historia Plantarum rariorum (Decades 5.). Lond. 1728. Fol.

17. *Mill. Dic.* The Gardener's Dictionary, the 8th ed. by Philip Miller, F. R. S. Folio, London, 1768.

18. *Morison Hist.* Rob. Morison Historia Plantarum Universalis Oxoniensis. Pars 2. Oxonii. Pars 3. absoluta a Jac. Bobartio, 1669. Fol.

19. *Plantes Grasses.* De P. J. Redouté, Peintre du Muséum National d'Histoire Naturelle, décrites par A. P. Decandolle, Membre de la Société des Sciences Naturelles de Genève, &c. 4to. Paris. Numeri 18. (excepto Numero 15, quem non vidi).

20. *Pluck. Almagest.* Almagestum Botanicum, sive Phytographiæ Plucnetianæ Onomasticon Methodo syntheticâ digestum. Londini, 1696, 4to.

21. *Pluck. Amalth.* Leonardi Plucknetii Amaltheum Botanicum. Londini, 1705. 4to.

22. *Pluck. Mantis.* Almagesti Botanici Mantissa Plantarum novissime detectarum, ultra Mille complectens. Londini, 1700. 4to.

23. *Pluck. Phyt.* Leonardi Pluckenetii Phytographia. Londini, 1691. 4to.

24. *Raj. Hist. Pl.* Joannis Raii Historiæ Plantarum, &c. Londini, 1704. Fol.

25. *Seba Thes.* Sebæ Thesaurus locupletissimus Rerum Naturalium. Amst. 1734. Fol. 4 vol.

26. *Thunb. Prod.* Prodromus Plantarum Capensium quas in Promontorio Bonæ Spei Africes, Annis 1772-1775 collegit Carol. Pet. Thunberg. Pars posterior. Upsaliæ, 8vo. 1800.

27. *Willd. Sp. Pl.* Caroli a Linné Species Plantarum, curante Carolo Ludovico Willdenow. Berolini, 8vo. 1797, &c.

28. *Zanon. Ist.* Istoria Botanica di Giacomo Zanoni, Semplicista, e Sopraintendente all' Horto Publico di Bologna. Bologna, 1675. Fol.

ABBRE-

ABBREVIATIONES *in hoc Opusculo.*

☉ An Annual.
♂ A Biennial.
♃ A Perennial.
♄ A Shrub.
A. M. Antemeridianum. (Morning).
M. Meridianum. (Noon).
P. M. Pomeridianum. (Afternoon).

Obs. The morning and noon opening species often remain open more or less in the afternoon.

Cap. Bon. Sp. Caput Bonæ Spei. (Cape of Good Hope.)

MESEM-

MESEMBRYANTHEMUM.

Linn. Gen. Pl. 252.
Juss. Gen. Pl. 317.
Gært. 2. 201. *tab.* 126.

CLASSIS ET ORDO.

Icosandria Pentagynia.

CHARACTER GENERICUS.

CALYX *Perianthium* 2—8-fidum, laciniæ inæquales, minores lateribus plus minusve membranaceæ.

PETALA numerosa, linearia, vel subinde capillaria, basi cohærentia.

FILAMENTA numerosa, plus minusve patentia, vel subinde convergentia, petalis breviora.

STYLI 4—20 subulati, sæpe patentes, vel expansi, filamentis plerumque breviores.

CAPSULA rotundato-ficiformis, carnosa, umbilicata, et obtuse angulata, 4—20-locularis.

SEMINA parva numerosa, rotundata, secundo anno sæpe vegetantia, *Cotyledonibus* duabus grossis obtusissimis.

CHARACTER ESSENTIALIS.

PETALA valde numerosa linearia basi cohærentia.

CHARACTER NATURALIS.

SUFFRUTICES aut HERBÆ, semper foliosæ, et succulentæ.

RADIX, plerumque fibrosus et perennis; sed in speciebus 4, tuberosus; et in *Planifoliis,* sæpe annuus vel biennis; et in *Canaliculatis,* subinde itidem annuus.

CAULES, ramosi, teretes, sæpe decumbentes, rarius erecti lignosiores; subinde prostrati, et tunc sæpe reptantes.

RAMI, plerumque oppositi et conferti, teretes et glabri; rarius remoti, compressi seu angulati, pubescentes vel scabri; rarissime articulati.

FOLIA, succulenta, exstipulata, sessilia, sæpissime opposita, distincta, conferta, integra, subulata, glauca, glabra, punctata et triquetra; indies plus minusve connata, denticulata, scabra vel

vel papulosa; rarius alterna, remota, vel teretia; in *Canaliculatis* semiteretia; et in speciebus 3 undulata.

Flores, diurni vel rarissime vespertini seu nocturni; sed in *Inclaudentiis* mirabiliter semper aperti; plerumque terminales; in *Acauliis* sæpe sessiles et solitarii; in cæteris sæpissime pedunculati, et plus minusve paniculati; indies inodori, sed subinde fragrantes.

Pedunculi, plerumque breves, teretes, glabri et superne incrassati; indies papulosi, scabri, et basi compressi; at rarissime æquali crassitie, vel pubescentes; sed fere semper bracteati.

Bracteæ, foliiformes, oppositæ vel rarissime alternæ, subinde imbricatæ, 1 ad 6 singulo pedunculo.

Calyx, basi carnosus, ficiformis, superne 2—8-fidus, sed plerumque 5-fidus, et tunc laciniis inæqualibus, 2 exterioribus majoribus foliiformibus; tertia minore uno latere basi membranata, 4 et 5 minimis apicibus cornutis, utrinque basi membranis exustis, et sæpe scariosis et coloratis, alte instructis.

Corolla, multifida usque ad basin, seu potius polypetala, *petalis* linearibus, basi cohærentibus in serie unico et tunc æqualibus; vel seriebus plurimis et tunc valde inæqualibus, interioribus sensim minoribus, et fere capillaceis; colore argenteo, albo, albido, stramineo, luteo, fulvo, croceo, aurantio, roseo, vel coccineo; sed sæpissime hilariter rubicundo. *Petala* interiora indies erecta seu convergentia, et omnino capillaria, apicibus aduncis.

Stamina, *Filamenta* numerosa, inæqualia, capillaria, convergentia vel patentia; sæpius alba, petalis breviora. *Antheræ* incumbentes, parvulæ, luteæ, seu rarius albidæ, vel purpurascentes. *Farina* sæpe lutea.

Pistilli, *Germen* superum ficiforme, carnosum seu pulposum, apice 4—20-angulatum, umbilicatum, et subinde a lateribus calycis liberum. *Styli* virescentes 4—20, filamentis plerumque breviores, subulati, erecti seu patentes; sed indies recurvati et ramentacei; et in speciebus 2 brevissimi et tuberculiformes. *Stigmata* nulla.

Capsula, ficiformis, carnosa seu pulposa, subinde fere pellucida, 4—20-locularis et angulata, apice valde umbilicata, angulis dorso exaratis; seminibus sæpe plurimis, in eodem loculo, carne nidulantibus. Capsulæ maturæ et exsiccatæ stellatim expansæ sunt (instar florem) aere humido; in quibus semina visa sunt.

Semina, plurima, parvula, plus minusve fusca et glabra et rotunda; secundo anno sæpius vegetantia, cotyledonibus duabus connatis grossis obtusissimis.

CHA-

CHARACTERES SECTIONUM.

* MINIMA. *Acaulia, obconica, seu obcordata, vel rarius sphæroidea: foliis retusissimis et usque ad apices connatis: floribus sessilibus.*

** SUBACAULIA. *Caulibus nullis vel brevissimis, radice perenni.*

† MONILIFORMIA. *Ramulis brevissimis moniliformibus, foliis duobus primoribus (seu stipulis) connatis fere ad apices, duobus sequentibus (seu foliis propriis) elongatis, basi conjunctis marcescenti-deciduis.*

†† INTEGRIFOLIA. *Foliis integris semiteretibus seu teretibus vel triquetris; nec linguæformibus.*

††† DENTICULATA. *Foliis versus apicem plus minusve ciliato-denticulatis.*

†††† LINGUÆFORMIA. *Foliis plerumque linguæformibus, versus apicem plus minusve gibbosis; calycibus (subdivisionibus duabus ultimis exceptis) quadrifidis.*

+ Disticha. *Foliis distichis linguæformibus longissimis, corollis magnis lucide-luteis, petalis in hoc genere latissimis.*

++ Cruciata. *Foliis longissimis rarius exacte, sed sæpius oblique cruciatis, corollis magnis lucide-luteis, petalis in hoc genere latissimis.*

+++ Abbreviata. *Foliis pergrossis uncialibus oppositis fere ad medium connatis, uno gibboso abbreviato, altero ad apicem valde aucto et obliquo; calycibus sexfidis.*

++++ Dolabriformia. *Foliis decussatis dolabriformibus, calycibus quinquefidis.*

*** PROSTRATA. *Caulibus prostratis, foliis confertis elongatis, petalis vel utrinque, vel intus luteis.*

**** CAPITATA. *Foliis densissime alternis capitatis longissimis, caule senecto decumbente, petalis a basi ad medium ciliatis.*

***** PLANIFOLIA. *Foliis planis sæpe subcarinatis, caulibus, sæpe decumbenti-prostratis effusis.*

† Annua. *Radice semper annua.*

+. Undulata. *Marginibus foliorum undulatis vel pinnatifidis.*

++ Integra. *Marginibus foliorum integris nec undulatis.*

†† Biennia. *Radice semper bienni, foliis planis.*

††† Perennia. *Radice semper perenni.*

†††† Incognita. *Radice ignota.*

****** CANALICULATA. *Foliis linearibus, junioribus canaliculatis subtus convexis, ramis sæpe suffrutescentibus, radice sæpe perenni, rarius annua.*

† Annua. *Radice annua.*

†† Spinulifera. *Costis foliorum exsiccatorum basi persistentibus et spinulescentibus, ramulis, foliis, pedunculisque papuloso-crystallinis.*

††† Varia. *Caulibus suffrutescentibus absque characteribus præcedentum, foliis sæpe impunctatis.*

******* VESPERIFLORA. *Caulibus suffrutescentibus gracilibus duris, et in hoc genere valde defoliatis, foliis teretiusculis impunctatis, calycibus quadrifidis, corollis odoratis intus albis, radicibus ætate carnoso-incrassatis, fibris perpaucis.*

******** RUBICUNDA. *Ramis suffrutescentibus glabris, foliis (divisio prima excepta) compresso-*

presso-triquetris nudis, apicibus rectis: petalis (M. edule, M. heteropetalo, et M. dilatato exceptis) rubicundis.

† Teretiuscula. *Caulibus plerumque erectis, foliis tereti-triquetris.*

†† Compressa. *Foliis glabris acute triquetris valde compressis, floribus sæpe ternatis.*

††† Falcata. *Foliis subglabris obtuse triquetris incurvis punctatis compressis, floribus paniculatis.*

†††† Brevifolia. *Foliis triquetris brevissimis vix triplo longioribus quam latioribus.*

††††† Reptantia. *Caulibus angulatis prostratis vel decumbenti-prostratis, sed sæpius plus minusve reptantibus; foliis acute compresso-triquetris, apicibus rectis; floribus (ratione ignota) in hortis rarissimis.*

********* FLAVIFLORA. *Caulibus suffrutescentibus sæpe erectis, foliis triquetris sæpe brevissimis, petalis flavis, aurantiis, vel coccineis.*

† Perfoliosa. *Foliis subtriquetris valde confertis glaucis et pulposis, petalis luteis seu croceis.*

†† Tardiflora. *Foliis brevibus vel subinde brevissimis, floribus (ratione ignota) in hortis rarissimis.*

††† Frequentiflora. *Foliis longiusculis, floribus frequentibus.*

********** ADUNCA. *Foliis distinctis (sine vaginis incrassatis) apicibus plus minusve aduncis, petalis rubicundis, caulibus suffrutescentibus rarissime reptantibus.*

† Claudentia. *Floribus vespere claudentibus, foliis lævibus.*

†† Includentia. *Floribus nocte et die expansis, bracteis basi latissimis, foliis compresso-*

compresso-triquetris plus minusve scabrido-punctatis, ramulis valde compressis.

*********** PERFOLIATA. *Caulibus duris lignosis, foliis valde connatis triquetris, vaginis carnosis, apicibus aduncis; floribus sæpius albis, rarius rubicundis.*

† Axillaria. *Floribus axillaribus solitariis rubicundis.*

†† Paniculata. *Floribus albis numerosis paniculatis, foliis glaucis, vaginis minus carnosis, sed linea longitudinali magis exaratis quam in divisione præcedente; ramulis sæpius subtetragonis.*

************ ASPERICAULIA. *Caulibus suffrutescentibus, ramulis plus minusve scabris.*

************* HISPIDA. *Ramulis vel foliis vel apicibus foliorum plus minusve hispidis.*

† Hispicaulia. *Caulibus pedunculisque hispidis, foliis nudis papulosis.*

†† Hispifolia. *Foliis undique plus minusve hispidis, caulibus sæpius nudis.*

††† Barbifolia. *Foliis nudis apice stellato-barbatis.*

CHA-

CHARACTERES SPECIERUM.

* **MINIMA,** *acaulia, obconica seu obcordata, vel rarius sphæroidea: foliis retusissimis et usque ad apices connatis: floribus sessilibus.*

M. læve glaucum immaculatum, petalis læte rubicundis. *minutum.*
HABITAT Cap. Bon. Sp. ♃. 1.
FLORET Sept. Oct. A. M. at rarius. *
DESCRIPTIO. Hæc species est minima omnium, generisque miraculum; fabam equinam vix æquat: obconica seu obcordata glauca et sæpius immaculata. *Flos* solitarius terminalis sessilis. *Petala* rubicunda expansa, totam plantam pulcherrime tegunt.
OBS. This new and very interesting species, the least of all its numerous tribe, I discovered some years ago, in an imported pot of *Stapeliæ*; growing in Cape earth, in his Majesty's Botanic Garden at Kew: where it had germinated spontaneously as a weed: it was in bloom when I first saw it, but I had no opportunity of examining the *Calyx*. My friend Mr. Aiton obliged me with a plant of it.

M. læve glaucescens, maculis confluentibus subramosis, petalis albicantibus, germine exerto. *minimum.* 2.
M. minimum Haworth Mesemb. no. 14. *p.* 126. *et App.* 13. *p.* 471?—*M. truncatum Thunb. Prod.* 88.
HABITAT Cap. Bon. Sp. ♃.
FLORET Octob. A. M.
DESCRIPTIO. Præcedente paulo major. *Calyx* 5-fidus cylindricus membranaceus, demum campanulatus, et rubro belle punctatus. *Petala* ex albido-lutescentia. *Germen* sessile, supra superficiem plantæ exertum.

M. glaucescens, maculis confluentibus ramosis, germine incluso. *obcordellum.*
HABITAT Cap. Bon. Sp. ♃. 3.
FLORET Feb. A. M. at rarius. *
DESCRIPTIO. Præcedente duplo major magisque obcordata, maculis magis elevatis seu subtuberculosis magisque confluentibus et ramosis seu mappæformibus. *Germen* subtus nec supra superficiem plantæ.

M. virescens maculis confluentibus tuberculiformibus, germine incluso, calyce quadrifido petalis albis. *obconellum.* 4.
HABITAT Cap. Bon. Sp. ♃. *
FLORET Octob. A. M.

DESCRIPTIO.

DESCRIPTIO. Præcedenti simillima eademque magnitudine seu paulo major, et distincta videtur. Differt minus glauca et obcordata, maculisque minus ramosis, sed magis elevatis seu tuberculiformibus; a *minimo* abunde differt, *gemine* infra, nec supra superficiem plantæ; et in *calyce* quadrifido nec quinquefido.

truncatellum. 5. * M. subglaucum valde depressum, maculis distinctis, calyce quadrifido.
HABITAT Cap. Bon. Sp. ♃.
FLORET Novemb. A. M. at rarius.
DESCRIPTIO. Major *obconello,* magisque depressa et truncata, maculis minoribus et distinctioribus. Maculæ rarius confluentes. *Calyx* sessilis 5-fidus, laciniis purpurascentibus. *Petala* numerosa linearia straminea. *Germen* nunquam supra paginam plantæ excluditur.
OBS. For this singular species (which I first saw at Kew) I am indebted to the friendship of Mr. Aiton.

fibuliforme. 6. * M. subcanescens, subpubescens, immaculatum, valde depressum.
HABITAT Cap. Bon. Sp.
FLORET Novemb. A. M.
OBS. This extraordinary species is truly distinct from all its congeners, and is aptly enough called the Cloth Button by the gardeners, from its great similitude to one. Its size is that of *truncatellum,* which it much resembles; but is still more depressed and more evenly truncated, spotless, hoary, and slightly pubescent: the flowers I have had no opportunity of examining. *M. fibuliforme* was in the fine collection at Kew a few years ago, but I am sorry to add it does not at present exist there or elsewhere in Britain; nor do I know of either a drawing or preserved specimen of it any where.

nuciforme. 7. M. sphæroideum, glaucum, immaculatum, apicibus foliorum sæpius distinctis.
M. nuciforme Haworth Mesemb. no. 50. p. 129.
HABITAT Cap. Bon. Sp.
FLORES nondum in Britannia produxit ullos.
DESCRIPTIO. Præcedentibus valde differt. Forma præcipue in juniore planta, sphæroidea nec truncata; apicibus foliorum obtusissimorum distinctis et liberis fere ut in sequente.
OBS. The prima facie appearance of this odd species, especially when young, very much resembles that of a large Spanish nut, as well in size as shape. It always acquires a new pair of leaves before the old pair are decayed, which, however,

however, are rent asunder and much lacerated near the base by the protrusive growth of the young ones. This character of the young leaves destroying the shape and appearance of the old ones, is common, but obscurely so, to all the preceding species; but is not found in any of the succeeding ones.

** SUBACAULIA, *caulibus nullis vel brevissimis, radice perenni.*

† MONILIFORMIA, *ramulis brevissimis moniliformibus; foliis duobus primoribus (seu stipulis) connatis fere ad apices, duobus sequentibus (seu foliis propriis) elongatis basi conjunctis, marcescenti-deciduis.*

M. foliis papuloso-crystallinis, primoribus connato-pisiformibus, sequentibus semiteretibus. *pisiforme.* 8.

HABITAT Cap. Bon. Sp. ♃. *

FLORES in Anglia nondum produxit ullos.

DESCRIPTIO. *Radix* perennis, fibris paucioribus crassis et brevibus munitus. *Caules* in junioribus nulli, in senectis, fere unciales ramosissimi suberosi, obsolete moniliformes (ex geniculis brevissimis numerosis), vestigiis foliorum exsiccatorum vestiti. *Ramuli* brevissimi aggregati moniliformes. *Folia* primora sive autumnalia brevissima connata fere usque ad apices in sphæroide carnosa pisiforme; folia secundaria sive hyemaria uncialia semicylindrica patentia obtusa; omnia sed præsertim juniora, papulis crystallinis eleganter ornata.

OBS. This and the next species are perhaps the most interesting and extraordinary of any in the whole genus. At the approach of warm weather in spring, their leaves all decay; their vegetative faculties appear perfectly at a stand; and they seem more dead than alive until the following autumn; when they send forth from every extremity one or two pairs of the short connate leaves above described; which, after an interval of a month or two, protrude from their common centres, the secondary pairs of long proper leaves; the daily-increasing sizes of which, soon burst asunder the sheathing bases of the foliage of the preceding year; and in a great measure push them off. In the structure of their *first* leaves they precisely resemble the singular plants which compose the last section, while in the formation of their *second*, they agree with those which constitute my next subdivision. Thus do

do they approach both very closely, and are truly intermediate; yet possess characters sufficiently separate and distinct from either.

moniliforme. 9. M. foliis primoribus connato-sphæroideis, sequentibus semiteretibus subulatis longissimis recurvantibus.

M. moniliforme Haworth Mesemb. no. 16. p. 132. et 440. et 441.—Thunb. Prod. 88.

HABITAT Cap. Bon. Sp. ♃.

FLORET Apr. A. M. at rarissime.

DESCRIPTIO. Præcedenti affinis sed multoties major et valde distincta. *Radix* perennis, fibris paucioribus incrassatis brevibus. *Caules* senecti triunciales moniliformes. *Folia primora* viridia brevissima connata fere ad apices in figura carnosa oblongo-sphæroidea; *folia secundaria* viridia basi valde connata quadriuncialia et ultra, semicylindrica, subulata aliquo recurvantia, apicibus obtusis. *Pedunculi* solitarii terminales cylindrici biunciales papuloso-crystallini. *Calyx* profunde quadrifidus, laciniis interioribus minoribus lateribus submembranaceis. *Petala* numerosa nivea linearia integra subobtusa, laciniis calycis paulo longiora. *Filamenta* numerosa patentia valde lutea. *Antheræ* parvæ itidem valde luteæ. *Germen* 7-loculare. *Styli* 7 patentes ramentaceæ viridi-luteæ longitudine filamentorum.

OBS. This species differs remarkably from the preceding, not only in the colour of the leaves as above noted; but in the secondary ones being connate half an inch above the surface of the primary ones, which is not observable in *pisiforme*. It has only flowered once in Britain, and then in my own collection.

†† INTEGRIFOLIA, *foliis integris semiteretibus seu teretibus vel triquetris; nec linguæformibus.*

testiculare. 10. M. foliis glaucis subovatis, subtus convexis, supra planis, flore sessili.

α. Corolla alba.

M. testiculare foliis quatuor decussatis supra planis, Ait. Kew. 2. 181.—Gmelin Syst. Nat. t. 2. 844.—Haworth Mesemb. no. 17. p. 133.—Willd. Sp. Pl. t. 2. 1026.

* β. Corolla rubicunda. *Jacq. Frag. p. 20. 73. tab. 12. f. 2.*

* γ. Corolla læte lutea.

FLORET Novemb. A. M. rarissime.

DESCRIPTIO. γ. *Scapus* subnullus terminalis, solitarius. *Calyx* 6-fidus,

6 fidus, basi bracteis duabus foliiformibus munitus. *Petala* numerosa linearia læte lutea.

OBS. The only individual of this fine and rare species, which I ever heard of flowering in Europe, was one in my own collection, in the month of November 1802, from which I took the above description.

M. foliis æqualibus semiteretibus obtusissimis glaucis. *fissum.*
M. fissum Haworth's Mesemb. no. 18. *p.* 134. 11.
HABITAT Cap. Bon. Sp. ♃.
FLORES nondum in Europa produxit ullos.
DESCRIPTIO. Caules in senectis 1 ad biunciales, ramulis brevissimis alternis.

M. foliis inæqualibus virescentibus semitereti-acinaciformibus obtusis. *obtusum.* 12.
M. fissoides Haworth's Mesemb. no. 19. *p.* 135.
HABITAT Cap. Bon. Sp. ♃.
FLORES in Europa nondum produxit ullos.
DESCRIPTIO. Præcedenti valde affinis at satis distincta. *Caules* senecti, biunciales, ramulis brevissimis. *Folia* nec glauca sed subglaucescentia seu virescentia tinctura obsolete cœrulescente.

OBS. This rare species, which I first received from my friend Mr. Aiton of Kew, is extremely delicate, and very liable to be killed by too much moisture.

M. acaule, foliis connatis punctatis semiteretibus, apice triquetris subreflexis acutis, floribus sessilibus, calyce subcylindraceo 6-fido. *compactum.* 13.
M. compactum Haworth's Mesemb. no. 31. *p.* 135.
HABITAT Cap. Bon. Sp. ♃.
FLORET Nov. Ait. Kew. l. c.
OBS. I have not yet met with this species, either in a living or dried state, nor any drawing of it.

M. foliis subcanescentibus triquetris compressis basi attenuatis, versus apicem gibboso-carinatis. *canum.* 14.
M. canum Haworth's Mesemb. no. 33. *p.* 158.
HABITAT Cap. Bon. Sp. ♃.
FLORUIT nondum in Europa.
OBS. This I also first received from Kew; it is an extremely distinct species, and appears intermediate between the very distant *obtusum* and *caninum*. Sorry I am to add, it no longer

longer exists alive in the gardens of Britain, nor was a drawing of it ever made.

diminutum. 15. M. subacaule, foliis linearibus subulatis obsoletissime triquetris, petalis rubicundis.

M. loreum Linn. Aiton. Gmelin et Willdenow. et olim mei, sed non vero Dillenii.—M. corniculatum Hortulanorum, et Haworth's Mesemb. no. 62. p. 226. exclusis synonymis.

Habitat Cap. Bon. Sp. ♃.

Floret Apr. A. M. rarius.

Descriptio. *Pedunculi* solitarii subterminales triunciales cylindrici glabri, basi bracteis duabus instructi. *Calyx* 5-fidus laciniis acutis inæqualibus, duabus majoribus foliiformibus, tribus minoribus lateribus plus minusve membranaceis. *Petala* uncialia linearia obtusa rubicunda, demum revoluta. *Filamenta* numerosa erecta purpurascentia. *Antheræ* albicantes. *Styli* 9 virescentes expansi.

acutum. 16. M. acaule, foliis subulatis acutis viridibus apice triquetris, petalis rubicundis.

M. subulatoides Haworth's Mesemb. no. 25. p. 141.

Habitat Cap. Bon. Sp. ♃.

Floret Apr. A. M. at rarius.

Descriptio. M. *diminuto* simillima at fere quadruplo major. *Scapus* cylindraceus longus superne incrassatus, basi bracteatus. *Bracteæ* duæ foliiformes. *Calyx* 5-fidus duabus laciniis majoribus foliiformibus; cæteris lateribus plus minusve membranaceis; omnibus asperiusculis. *Petala* valde rubicunda longa apicibus fissis et sæpe recurvis. *Filamenta* brevia erecta purpurascentia interiora convergentia. *Antheræ* parvæ purpurascentes. Styli 10 longitudine filamentorum apicibus subrecurvantibus.

calamiforme. 17. M. foliis subulatis teretiusculis glaucescentibus punctulatis basi supra planis, floribus octogynis.

Haworth's Mesemb. no. 24. p. 140.—Willd. Sp. Pl. 2. 1031.—Plantes Grasses, page 5. cum icone.—Mill. Dict. ed. 8. no. 7.—Dill. Elth. t. 186. f. 228.—Ficoides Capensis humilis cepæfolio flore stramineo Brad. Suc. 2. p. 10. f. 19.

Habitat Cap. Bon. Sp. ♃.

Floret Jul. Sept. A. M.

Descriptio. *Petala* linearia albicantia. *Capsula* 8-locularis.

obsubulatum. 18. M. acaule, foliis obsubulatis seu subclavatis grossis teretiusculis punctulatis virescentibus obtusis.

Habitat

HABITAT Cap. Bon. Sp. ♃.
FLORET nondum in Britannia.
DESCRIPTIO. Simillima præcedenti sed distincta, differt foliis viridioribus obsubulatis, seu a basi ad apicem sensim incrassatis; nec subulatis, seu a basi ad apicem sensim attenuatis, ut in *calamiforme*.

M. acaule, foliis triquetro-teretibus farctis pergrossis virescentibus punctatis biuncialibus. *teretiusculum.* 19.
Haworth's Mesemb. App. 1. p. 410: et forte M. punctatum App. 2. p. 411.
HABITAT Cap. Bon. Sp. ♃.
FLORET nondum in Britannia.
OBS. I have seen this species in his Majesty's rich collection at Kew; it is very distinct from the last, and both are distinct from *calamiforme* and the following species: but *punctatum* of the Appendix to my *Obs.* on this genus is probably the same as *teretiusculum.* I have not yet had an opportunity of comparing them.

M. subacaule, foliis triquetro-teretibus glaucis obtusis punctatis. *cylindricum.* 20.
α. foliis triquetro-cylindricis punctatis glaucis, junioribus glaucioribus subinde triquetris.
M. cylindricum Haworth's Mesemb. App. 3. p. 411.
* β. foliis teretiusculis supra sæpe planiusculis virescentibus subpunctatis, junioribus semiteretibus perviridibus.
HABITAT Cap. Bon. Sp. ♃.
FLORET nondum in Britannia.
DESCRIPTIO. Præcedentibus valde distincta; subacaule nec acaule: *folia* longiora et duplo angustiora.

M. subacaule, foliis alternis teretibus obtusis floribus axillaribus sessilibus. *digitatum.* 21.
M. digitatum Haworth's Mesemb. no. 23. p. 139.—Willd. Sp. Pl. 2. 1031.
HABITAT Cap. Bon. Sp. ♃.
FLORET nondum in Britannia.
OBS. I have not yet found this singular species: it is the only one in the genus with alternate leaves, except the species which compose my section *Capitata*, and a few in my division *Planifolia*, and my section *Canaliculata*.

M. foliis subulatis triquetris peralbis, basi semiteretibus, apice obtusis cum mucrone. *albidum.* 22.
M. albidum Haworth's Mesemb. no. 32. p. 156.—Willd. Sp. Pl. 2. 1029.—Dill. Elth. t. 189. f. 232.—Raj. Hist. pl. 3. 366. 16.

HABITAT

HABITAT Cap. Bon. Sp. ♃.

FLORET Jul.—Sept. A. M. et vespere: flores senecti, nocte et die.

DESCRIPTIO. *Scapus* 1—3-florus terminalis bibracteatus. *Corolla* speciosa pergrandis intus lutea, extus multo saturatior. *Capsula* 11-locularis, costis 11 magnis dorso exaratis.

OBS. The very showy flowers of this species do not open without the influence of a strong sun, and not until late in the day; they remain open when once expanded, several hours, and do not decay so soon as those of many others. *M. albidum* requires more heat than most of this genus, particularly if the flowers appear late in autumn. Like many other species which flower at that season, they will not open well unless placed in the hot-house. Neither *albidum*, nor any other species, should be watered over their flowers while in bloom, but plentifully at the roots. A single shower of rain, or a single watering over the expanded *corollæ*, effects the impregnation of the embryo-seeds, and causes the flowers to pass speedily away, and expand no more; which without such access of moisture, would have opened again several times. This remark applies equally well to all other plants. Water them plentifully all over, when preparing for flowers, but when in bloom, only at the roots.

robustum. M. foliis subulatis obtusis punctatis glaucis, basi interiore pustulato-gibbosis, caule ramuloso prostrato.
23.
*

HABITAT Cap. Bon. Sp. ♃.

FLORET nondum in Europa.

DESCRIPTIO. Caules in senectis 2—6-unciales robusti prostrati lignosi ramulosi. *Ramuli* perbreves robusti aggregati. *Folia* subulata glauca, basi semicylindrica, apice triquetra obtusiuscula.

OBS. I first received this species and the next from my friend Mr. Aiton of Kew.

quadrifidum. M. subacaule, foliis subulatis obtusis glaucis, punctis rarissimis, calyce quadrifido.
24.
*

HABITAT Cap. Bon. Sp. ♃.

FLORET Nov. A. M. at rarius.

DESCRIPTIO. Caules in senectis 2—3-unciales ramulosi. *Ramuli* aggregati brevissimi. *Folia* perglauca subulata, basi semicylindrica, apice triquetra et valde obtusa, et fere impunctata. *Scapus* terminalis cylindricus superne incrassatus et subrugosus foliis longior. *Calyx* 4-fidus, laciniis inæqualibus, duabus majoribus sine membrana laterali, duabus minoribus lateribus albido-membranaceis. *Corolla* petalis line-

aribus

aribus numerosis luteis plerumque integris et acutis, interioribus sensim minoribus. *Filamenta* numerosa pallida. *Antheræ* albicantes. *Styli* circiter 10 subulati circiter longitudinem filamentorum.

OBS. Præcedenti similis sed minor, foliis obtusioribus minusque punctatis.

M. subacaule, foliis subulatis glaucis obtusis punctatis, calyce profunde bifido. *bifidum.* 25. *

HABITAT Cap. Bon. Sp. ♃.

FLORET Nov. A. M. rarius.

DESCRIPTIO. Præcedenti simillima magnitudine et staturâ, sed discrepat calyce bifido nec quadrifido, et foliis magis cœrulescenti-glaucis et valde punctatis. *Scapus* subterminalis subcylindricus virescens. *Calyx* profunde bifidus laciniis subæqualibus uncinato-acutis, laciniâ minore lateribus membranaceis. *Corolla* lutea, petalis linearibus breviusculis. *Filamenta* numerosa. *Antheræ* magnæ pallidæ.

M. acaule, foliis elongatis subulatis acutis glaucis obsolete punctatis, scapo bracteisque elongatis. *rostratum.* 26.

M. rostratum Haworth's Mesemb. no. 29. *p.* 152.—*Willd. Sp. Pl.* 2. 1027.—*Linn. Hort. Cliff.* 219. 3.—*M. rostratum rostrum ardeæ referens Dill. Elth.* 240. *f.* 229.

HABITAT Cap. Bon. Sp. ♃.

FLORET Nov. rarissime.

OBS. I never heard of this very old inhabitant of our greenhouses attempting to flower in Britain except once; which was in my own collection, where it was unfortunately destroyed by accident before the expansion of the *petals*, which according to Aiton and *Willdenow* are yellow. It differs sufficiently from the three last species, and from the next in having longer and more subulate leaves, and never acquiring any stem whatever.

M. foliis subulatis obtusis punctatis basi intus pustulato-gibbosis, senioribus expansis, caule perbrevi prostrato. *ramulosum.* 27.

M. rostratoides Haworth's Mesemb. no. 30. *p.* 254.

HABITAT Cap. Bon. Sp. ♃.

FLORET rarissime Nov. et Mar. A. M.

DESCRIPTIO. Pedunculus primo terminalis, demum axillaris, longus cylindricus lævis basi bracteatus. *Bracteæ* duæ foliiformes. *Calyx* inæqualiter 5-partitus, laciniis duabus majoribus lateribus vix membranaceis; cæteris lateribus valde membranaceis. *Corolla* lutea fere ut in *M. canino*. *Petala* uniformia

formia acuta. *Filamenta* erecta brevia albida. *Antheræ* subluteæ.

OBS. This species is very closely allied to the four preceding; but its leaves are nearly as small again as in any of those, and expand more.

††† DENTICULATA. *Foliis versus apicem plus minusve ciliato-denticulatis.*

denticulatum. 28. M. foliis subulato-triquetris compressis valde glaucis, apice subtus dilatato-carinatis et sæpe denticulatis.

α. *M. denticulatum canum Haworth's Mesemb. p.* 151.

β. *M. denticulatum glaucum Haworth's Mesemb. p.* 151.

γ. *M. denticulatum candidissimum Haworth's Mesemb. p.* 151.

HABITAT Cap. Bon. Sp. ♃.

FLORES in Britannia non produxit ullos.

OBS. The inside of the leaves at the base has a large pale blister, as in the last species; but the whole plant is whiter, and does not acquire a stem like *ramulosum.* It is only the full grown leaves that are denticulated. I first received var. α. from my friend Aiton of Kew.

bellidiflorum. 29. M. foliis viridibus triquetris apice trifariam denticulatis.

M. bellidiflorum striatum Haworth's Mesemb. no. 27. *p.* 143.—*Plantes Grasses, page* 41. *cum icone: foliis non satis denticulatis, et synonymis erroneis.—Willd. Sp. Pl. tom.* 2. 1029.—*Linn. Hort. Cliff.* 218. 13.—*Dill. Elth.* 224. *f.* 233.

β. *M. bellidiflorum album Gowan's Hort. Monsp. p.* 243. 1762.

HABITAT Cap. Bon. Sp. ♃.

FLORET Oct. A. M.

DESCRIPTIO. Scapus terminalis. Petala alba marginibus lineaque costali rubicundis.

murinum. 30. M. subacaule, foliis glaucis punctatis trifariam ciliato-denticulatis.

M. murinum Haworth's Mesemb. no. 37. *p.* 165.

HABITAT Cap. Bon. Sp. ♃.

FLORET Aug. Sept. P. M.

DESCRIPTIO. *Flores* sessiles solitarii terminales parvi lutei odore moschato gratissimo. *Calyx* 5-fidus subcampanulatus, laciniis tenuioribus quam in alia ulla hujus generis, duabus exterioribus latioribus, basi intus planis, apicibus extus triquetris et denticulatis; laciniis interioribus marginibus subinde minute-membranaceis, sed minus quam in affinibus. *Petala* numerosa linearia et plerumque integra calyce paulo longiora.

longiora. *Filamenta* gracilia numerosa convergentia lutescentia. *Antheræ* parvæ luteæ. *Germen* turbinatum obsolete anceps et minute tuberculatum, tuberculis oblongis longitudinalibus. *Styli* 5 brevissimi erecti virides versus apices paulo incrassatis.

M. acaule, foliis glaucescentibus, marginibus ciliato-dentatis, apicibus cartilagineis. *felinum.* 31.

M. felinum Haworth's Mesemb. no. 85. *p.* 161.—*Willd. Sp. Pl. tom.* 2. 1023.—*Linn. Hort. Clif.* 218. 12. *α.*—*M. rictum felinum representans Dill. Elth.* 240. *f.* 310.—*Mart. Cent.* 30. 6. 30.

HABITAT Cap. Bon. Sp. ♃.

FLORET Nov. P. M.

DESCRIPTIO. Præcedenti affinis at multoties major, glabrior, viridior. *Calyx* terminalis sessilis magnus 5-fidus, laciniis inæqualibus, omnibus plus minusve lateribus membranaceis. *Corolla* magna primo lutea demum crocea, *petalis* acutis linearibus. *Filamenta* alba. *Antheræ* luteæ. *Germen* pyriforme, obsolete anceps. *Styli* 5 subulati demum divaricati, longitudine filamentorum.

M. acaule, foliis glaucescentibus albo-maculatis rarius tuberculatis, marginibus profunde ciliatis. *tigrinum.* 32.

M. tigrinum Haworth's Mesemb. no. 86.—*Willd. Sp. Pl. tom.* 2. *p.* 1029.

HABITAT Cap. Bon. Sp. ♃.

FLORET Nov. P. M.

DESCRIPTIO. Herba perelegans cæspitosa, valde succulenta, affinis præcedenti, sed abunde discrepat foliis latioribus albo maculatis et longissime ciliatis. *Flores* solitarii terminales sessiles magni, primo lutei demum crocei. *Calyx* profunde 5-fidus laciniis inæqualibus, omnibus plus minusve lateribus membranaceis. *Filamenta* alba. *Antheræ* parvæ luteæ. *Germen* turbinatum subcompressum obsolete anceps. *Styli* 5 subulati lutescentes vix longitudine filamentorum.

M. subacaule, foliis impunctatis glaucis, apicem versus grosse bifariam dentatis, pedunculis folio duplo longioribus. *caninum.* 33.

α. bracteis integris, vel subintegris.

M. caninum Haworth's Mesemb. no. 34. *p.* 159.—*Willd. Sp. Pl.* 2. *p.* 1023.—*M. ringens α. caninum Linn. Sp. Pl.* 698.—*Linn. Hort. Clif.* 218. 12.—*M. rictum caninum referens Dill. Elth.* 241. *f.* 231.

HABITAT Cap. Bon. Sp. ♃.

FLORET Aug.—Oct. P. M.

DESCRIPTIO.

Descriptio. *Folia* longa glauca glabra impunctata, versus basin attenuata integra et semicylindrica, versus apicem valde gibboso-carinata lateribus sæpe grosse dentatis, et sæpe integris. *Flores* magni luteo-aurantii pomeridiani. *Capsula* ficiformis quinquelocularis costis quinque valde pulvinatis, et dorso exaratis.

* *vulpinum β.* Paulo humilior, foliis omnibus bracteisque denticulatis, denticulis minoribus et numerosioribus quam in *α.* *Plantes Grasses, page* 95. *cum icone.*—*Brad. Succ. t.* 17. *mala.*

Obs. The flowers of this fine species expand in the afternoon, and close again about the hour those of *M. dolabriforme* begin to open; which last are remarkable for closing when the flowers of the fragrant *noctiflorum* commence their expansion for the night.

†††† Linguæformia. *Foliis plerumque linguæformibus, versus apicem plus minusve oblique gibbosis; calycibus (subdivisionibus duabus ultimis exceptis) quadrifidis.*

← Disticha. *Foliis distichis linguæformibus longissimis, corollis magnis lucide-luteis, petalis in hoc genere latissimis.*

scalpratum. 34. M. foliis scalpratiformibus latissimis altero margine crassiori, basi intus cartilagineo-gibbosis, calycibus glaberrimis sessilibus, petalis crenulatis.

M. scalpratum Haworth's Mesemb. no. 47: *p.* 187.—*M. folio scalprato Dill. Elth.* 235. *f.* 224.—*M. linguæforme α. Willd. Sp. Pl.* 2. *p.* 1026.—*Linn. Hort. Ups.* 128. *no.* 5.—*Linn. Hort. Cliff.* 217. 8. *et* 217. 8. *α.*

Habitat Cap. Bon. Sp. ♃.

Floret Aug.—Nov. A. M.

Descriptio. *Flores* sessiles axillares. *Calyx* quadrifidus laciniis inæqualibus. *Corolla* maxima, *petalis* lucide-luteis linearibus sed in hoc genere fere latissimis, basi attenuatis, apicibus obtusis emarginatis vel crenulatis. *Antheræ* parvulæ pro ratione magnitudinis corollæ. *Styli* 10. *Capsula* 10-locularis.

latum. 35. M. foliis late linguæformibus obtusissimis viridibus humi adpressis, floribus subsessilibus.

α. Calyce subsessili lævi, petalis subintegris, capsula sæpe turbinato-orbiculata.

M. latum Haworth's Mesemb. no. 46. *p.* 186.—*Willd. Sp. Pl.* 2. 1026. *excluso synonymo Boerhaavii.*—*M. folio linguæformi*

latiore Dill. Elth. 236. *f.* 225.—*Linn. Hort. Ups.* 128. 5. β. —*Linn. Hort. Clif.* 217. 8. β.

DESCRIPTIO. Præcedenti affinis sed abunde distincta, statura duplo minore, et foliis minus lævigatis, basi sine cartilagine. *Calyx* plerumque sessilis quadrifidus, laciniis inæqualibus lævibus obtusis, omnibus plus minusve lateribus membranaceis, duabus acute carinatis, tertia obsolete carinata. *Corolla* maxima, petalis latis in hoc genere, intus lucide-luteis, extus pallidioribus. *Filamenta* numerosa lutea. *Antheræ* minutæ luteæ. *Capsula* turbinato-orbiculata, apice truncata umbilicata, costis magnis dorso exaratis 11, loculisque totidem 11.

* β. Calyce sæpe breviter pedunculato tuberculato, capsula sæpe depresso-orbiculata.

DESCRIPTIO. *Folia* paulo angustiora magisque lævigata quam in α. *Calyx* sæpe pedunculo brevi trigono instructus, tuberculatus, subæqualiter quadrifidus laciniis omnibus lateribus membranaceis, et plus minusve carinatis, tribus acutis, quarta obtusiuscula et undique ad oras valde membranacea. *Corolla* magna petalis ut in α, sed paulo angustioribus et acutioribus. *Styli* 10 breves ramentacei. *Capsula* sæpe depresso-orbiculata apice truncata, et umbilicata, costis dorso exaratis 10, loculisque totidem 10.

HABITAT Cap. Bon. Sp. ♃.

FLORET Aug.—Nov. A. M.

M. foliis inæqualiter linguæformibus adscendentibus, perviridibus subinde carinatis. *linguæforme.* 36.

M. linguæforme Haworth's Mesemb. no. 45. *p.* 182.—*M. obliquum Willd. Sp. Pl.* 2. 1027.—*Linn. Hort. Clif.* 217. 8. γ.—*M. folio linguæformi angustiore Dill. Elth.* 237. *f.* 226.

HABITAT Cap. Bon. Sp. ♃.

FLORET Nov.—Mar. A. M.

DESCRIPTIO. Præcedenti valde affinis at distincta. *Folia* præcipue juniora adscendentia, magis inæqualia concava et viridiora, magisque ad apicem uncinato-incurva, et subinde carinata, ut in triquetris; nec tantum altera margine crassiori, quæ hac subdivisione communis est. *Calyx* quadrifidus pedunculo brevi trigono. *Corolla* magna, petalis latis in hoc genere et lucide-luteis. *Capsula* turbinato-orbiculata, costis 10 magnis, dorso exaratis, apice valde truncata et umbilicata.

M. foliis linguæformibus obtusis humi valde adpressis, pallide viridibus. *depressum.* 37. *

HABITAT Cap. Bon. Sp. ♃.

FLORET Sept.—Nov. at rarius A. M.

DESCRIPTIO. Duabus præcedentibus simillima, at minor et pallidior, foliis angustioribus magisque humi adpressis vel potius recurvis. *Flores* subsessiles axillares. *Calyx* quadrifidus laciniis inæqualibus plus minusve membranaceis, tribus carinatis; carinis minute pubescentibus. *Corolla* magna petalis latis in hoc genere, lucide-luteis, costa extus versus apicem, apiceque ipsa subinde rubicundis. *Filamenta* brevia patula capillaria lutea. *Antheræ* parvulæ luteæ. *Styli* 10 perbreves, ovato-lanceolati incurvi subluteï. *Capsula* depressa 10-locularis 10-costata.

longum. 38. M. foliis longissimis linguæformibus, pedunculis calyce longioribus, petalis acutis.

M. longum Haworth's Mesemb. no. 43. *p.* 177.—*Willd. Sp. Pl.* 2. 1027.—*M. linguæforme D. Plantes Grasses, page* 71. *cum icone.*—*Linn. Hort. Clif.* 217. 8. δ.—*M. folio linguæformi longiore Dill. Elth.* 238. *f.* 227.—*Ficoides africana, &c. Brad. Suc. t.* 24. *mala.*—*Seba Thes. vol.* 1. *tab.* 18. *f.* 1.)

HABITAT Cap. Bon. Sp. ♃.

FLORET Aug.—Oct. A. M.

DESCRIPTIO. *Pedunculi* axillares sæpe biunciales obsolete triquetri. *Calyx* inæqualiter 4-fidus glaber. *Corolla* magna 2—3-uncialis lucide-lutea. *Petala* linearia latiuscula acuta. *Capsula* 10-locularis 10-angulata.

OBS. Facile dignoscitur foliis pedunculisque longioribus, ab aliis hujus subdivisionis.

angustum. 39. M. foliis lineari-linguæformibus semicylindricis longissimis.

M. angustum Haworth's Mesemb. no. 42. *p.* 176.

HABITAT Cap. Bon. Sp. ♃.

FLORET Mar. et Octob. A. M.

DESCRIPTIO. *Flores* axillares solitarii subsessiles maximi lutei lucidi 3—4-unciales (*a*). *Calyx* maximus valde carnosus 4-fidus, laciniâ unâ alterâve cæteris majore extus gibbosâ et carinatâ. *Petala* numerosa latissima fere omnium, in hoc genere; apicibus valde obtusis et obsolete crenatis. *Fila-*

(*a*) This species has the largest flowers of any in the present section, and the broadest and most showy petals, which are connate at the base above a quarter of an inch. A living flower now lying before me (Octob. 1802.) measures four inches and three-quarters in expanse, and each of its petals is two lines wide.

menta flava. *Antheræ* flavæ. *Capsula* 10-locularis 10-costata. *Styli* 10 longi.

OBS. Dignoscitur primo intuitu foliis semicylindricis.

++ Cruciata, *foliis longissimis rarius exacte, sed sæpius oblique cruciatis, corollis magnis lucide-luteis.*

M. foliis linguæformibus mollissimis, junioribus ciliato-pubescentibus, apice incurvis. *præpingue.* 40.

M. præpingue Haworth's Mesemb. no. 44. *p.* 179.

HABITAT Cap. Bon. Sp. ♃.

FLORET Aug.—Oct. A. M.

DESCRIPTIO. *Folia* succulentissima, mollissima omnium, lucida pallide viridia. *Pedunculi* axillares subsessiles, solitarii. *Calyx* inæqualiter 4-fidus, laciniis carinatis et plus minusve membranaceis; carina ciliato-pubescente. *Corolla* magna lucide-lutea, petalis linearibus latiusculis apicibus eroso-crenatis. *Styli* 8. *Capsula* 8-locularis.

M. subacaule, foliis lineari-linguæformibus semicylindricis mollissimis cruciatis. *cruciatum.* 41.

M. cruciatum Haworth's Mesemb. no. 41. *p.* 173.

HABITAT Cap. Bon. Sp. ♃.

FLORET Mai.—Nov. A. M.

DESCRIPTIO. *Caules* senecti biunciales et ultra subalterni cruciati humo adpressi. *Pedunculi* axillares 1—2-unciales obsolete ancipites valde succulenti. *Calyx* magnus inæqualiter 4-fidus. *Corolla* maxima lucide-lutea. *Petala* sæpe emarginata. *Filamenta* breviuscula lutea. Antheræ luteæ. *Styli* 9. *Capsula* ovalis costis magnis dorso exaratis 8.

OBS. Dignoscitur præcedenti et sequenti foliis exacte nec oblique cruciatis.

M. subacaule, foliis lineari-linguæformibus semicylindricis oblique cruciatis apicibus difformibus. *difforme.* 42.

M. difforme Haworth's Mesemb. no. 40. *p.* 169.—*M. foliis difformibus flore luteo Dill. Elth.* 252. *f.* 242. *nec* 241. *quæ cum synonymo Plucknetii ad M. semicylindricum pertinet.*

HABITAT Cap. Bon. Sp. ♃.

FLORET Mai.—Nov. A. M.

DESCRIPTIO. Præcedenti valde affinis at distincta. *Caules* senecti 2-unciales vel ultra decumbentes, vestigia foliorum exsiccatorum valde onusti. *Folia* a basi ad medium semicylindrica, versus apicem mirabiliter difformia, uno alterove dente

dente instructa, apicibus varie obliquis et acutis. *Pedunculi* axillares vix ulli. *Calyx* inæqualiter 4-fidus. *Corolla* maxima. *Petala* lucidissime-lutea, demum crocea. *Styli* 8.

semicylindricum. M. foliis semiteretibus, versus apicem obliquis et uno alterove dente munitis.

43. *M. semicylindricum Haworth's Mesemb. no. 67. p. 238.—M. foliis difformibus flore luteo Dill. Elth. 252. f. 241. nec 242. quæ ad M. difformem pertinet.—Pluck. Mantis. t. 325. f. 4.*

Habitat Cap. Bon. Sp. ♃.

Floret Mai.—Nov. A. M.

Descriptio. Præcedenti simillima at multoties minor, et certe distincta. *Pedunculi* axillares solitarii compresso-angulati. *Calyx* inæqualiter 4-fidus, laciniis duabus minoribus lateribus membranaceis. *Corolla* magna lutea ut in affinibus. *Filamenta* expansa lutea. *Antheræ* luteo-croceæ. *Styli* 8 breves expansi.

Obs. Dignoscitur facile magnitudine multo minore, ab aliis hujus subdivisionis.

heterophyllum. M. acaule, foliis viridibus impunctatis difformibus, superioribus longioribus.

44. *M. heterophyllum Haworth's Mesemb. App. no. 12. p. 420.*

Descriptio. Singularis est et distinctissima species. *Folia* robusta difformia, inferiora ut in M. *cano*, superiora fere ut in M. *difforme*, at minora.

Habitat Cap. Bon. Sp. ♃.

Floret nondum in Europa.

Obs. I once saw two plants of this fine species alive in the collection of Messrs. Malcolm, nurserymen at Kennington.

+++ Abbreviata, *foliis pergrossis uncialibus oppositis, fere ad medium connatis, uno gibboso abbreviato, altero ad apicem valde aucto et obliquo; calycibus sæpe sexfidis.*

gibbosum. M. subacaule, foliis lutescente-viridibus patentibus ovatis semicylindricis apice rarissime carinatis.

45. *M. gibbosum Haworth's Mesemb. no. 21. p. 137.*

Habitat Cap. Bon. Sp. ♃.

Floret Jan.—Mar. A. M. at rarissime.

Descriptio. *Caules* senecti unciales alterni prostrati ramulis brevissimis dense muniti. *Pedunculi* solitarii axillares brevissimi valde compressi ancipites vel fere alati. *Calyx* inæqualiter 6-fidus, laciniis 4 minoribus subplanis lateribus plus

plus minusve membranaceis, duabus majoribus carinis acutis decurrentibus, unde fere alatus pedunculus. *Corolla* parva semiuncialis. *Petala* linearia rubicunda marginibus pallidioribus. *Filamenta* numerosa convergentia brevia. *Antheræ* albido-lutescentes. *Styli* 6 erecti brevissimi viride-lutei.

M. subacaule, foliis oblongis semicylindrico-triquetris, caule brevi prostrato. *perviride.* 46.
α. Caule senecto triunciali et ultra, foliis perviridibus.
M. perviride Haworth's Mesemb. no. 20. *p.* 136.
Habitat Cap. Bon. Sp. ♃.
Floret Jan.—Mar. A. M. rarissime.
Descriptio. *Pedunculi* solitarii axillares brevissimi ancipites. *Calyx* parvus inæqualiter 6-fidus ut in M. *gibboso*. *Corolla* paulo major et pallidior quam in *gibboso*. *Petala* uniformia rubicunda obtusissima. *Filamenta* numerosa brevia patentia alba. *Antheræ* lutescentes. *Styli* 6 patentissimi longitudine filamentorum, apicibus subulatis recurvis subvillosis.
β. Caule senecto biunciali, foliis majoribus et longioribus quam in *α*, luteo-viridibus.
M. Haworth's Mesemb. App. no. 15. *p.* 422.
Floret nondum in Britannia.

M. subacaule, foliis pubescentibus semicylindricis apicibus obliquis. *pubescens.* 47.
M. pubescens Haworth's Mesemb. no. 22. *p.* 138.
Habitat Cap. Bon. Sp. ♃.
Floret nunquam in Europa.
Descriptio. Præcedenti simillima. *Caules* senecti fere triunciales prostrati. *Folia* oculo armato pubescentia, oculo nudo canescentia seu sericea.

++++ Dolabriformia. *Foliis decussatis dolabriformibus.*

M. subacaule, foliis dolabriformibus seu triquetris, carina versus apicem valde dilatata. *dolabriforme.* 48.
M. dolabriforme Haworth's Mesemb. no. 38. *p.* 166.—*Willd. Sp. Pl.* 2. 1030.—*Plantes Grasses, page* 6. *cum icone.*—*Curtis Magaz. f.* 32.—*Linn. Hort. Clif.* 218. 17.—*M. folio dolabriformi Dill. Elth. f.* 237.
β. Paulo minus.
M. dolabriformoides Haworth's Mesemb. no. 39. *p.* 168.—*M. dolabriforme β. Willd. Sp. Pl.* 2. 1031.
Habitat Cap. Bon. Sp. ♃.

Floret

FLORET Mai.—Nov. ad quintam horam Pomeridiani. Flores claudunt circa horam 9 P. M.

DESCRIPTIO. *Pedunculi* terminales, bracteis duabus foliiformibus sæpe instructi. *Calyx* quinquefidus vel rarius tantum quadrifidus, laciniis subæqualibus. *Corolla* intense lutea formosa, petalis acutis integris linearibus. *Filamenta* longiuscula lutea patentia. *Antheræ* luteæ. *Germen* carnosum turbinatum, quasi truncatum obsolete 5-angulatum. *Styli* 5 longi tenues recurvati.

OBS. This fine but anomalous species, is not closely allied to any in the whole genus; its nearest affinities appear to me to be the *Linguæformia*; wherefore I trust I shall be justified in having made a subdivision of it alone, at the end of that section.

*** PROSTRATA. *Caulibus prostratis, foliis confertis elongatis, petalis vel utrinque vel intus luteis.*

loreum. 49. M. foliis capitato-confertis semicylindrico-triquetris elongatis recurvis subglaucis, caulibus senectis teretiusculis gracilibus dealbatis.

M. loreum Dill. Elth. t. 200. *f.* 255. *nec aliorum auctorum.*—*Linn. Hort. Clif.* 219. 21. β.—*Linn. Hort. Ups.* 128. 7.

HABITAT Cap. Bon. Sp. ♃.

FLORES nondum in Britannia produxit ullos.

DESCRIPTIO. *Radix* perennis. *Rami* et ramuli numerosi prostrati conferti, nodosi subtenues teretiusculi, cortice in senectis dealbato. *Folia* in capitulis, confertissima fere omnium, sæpe recurva semicylindrico triquetra acuta 2—3-uncialia et ultra subglauca, lineolis aliquo rugosiuscula et lineolâ alia aliquo elevata, a basi versus medium longitudinaliter ductâ. *Flores* nunquam vidi.

diversifolium. 50. M. foliis capitato-confertis longissimis triquetro-semicylindricis subrecurvis viridibus, caulibus angulatis robustis rubro-luteis.

M. diversiphyllum Haworth's Mesemb. no. 63. *p.* 228.—*M. corniculatum* β. *Willd. Sp. Pl.* 2. 1041.—*Linn. Hort. Clif.* 219. 21. α.—*M. foliis corniculatis brevioribus Dill. Eltb. t.* 198. *f.* 252.—*Ficoides africana, &c. Brad. Suc. t.* 40.

HABITAT Cap. Bon. Sp. ♃.

FLORET Mar.—Oct. rarius A. M.

DESCRIPTIO. Præcedenti simillima et difficillime distinguatur. An vere satis distincta? *Rami* robustiores et magis angulati quam

quam in *loreo*, cortice colorato nec albicante. *Folia* aliquo longiora et minus recurvata et conferta, sed viridiora seu minus glauca quam in illa. *Pedunculi* axillares vel rarius terminales bi- vel tri-unciales teretes, versus medium bibracteati. *Calyx* profunde quinquefidus laciniis subæqualibus, basi planis. *Corolla* speciosa petalis linearibus apicibus integris emarginatisque, intus luteis et lucidis, extus linea longitudinali rubro-purpurea eleganter notatis. *Filamenta* luteocrocea subconvergentia. *Antheræ* parvulæ pallidæ. *Styli* circiter 17 subulati expansi aliquo ramentacei.

M. foliis subconfertis longiusculis triquetro-semicylindricis adscendentibus viridibus, caulibus teretiusculis luteo-rubris. *dubium.* 51. *
HABITAT Cap. Bon. Sp. ♃.
FLORET Nov.—Mai. A. M.
DESCRIPTIO. Duabus præcedentibus valde affinis sed distincta. Differt foliis brevioribus, minus confertis et recurvis et magis æqualibus, ramulisque alternis remotioribus. *Folia* biuncialia, in ramulis imbricata, nec in capitulo conferta ut in præcedentibus. *Pedunculi* subterminales. *Calyx* quinquefidus laciniis inæqualibus basi planis. *Corolla* speciosa petalis intus sulphureis, extus aurantio-rubro notatis. *Styli* circiter 12.

M. foliis subconfertis triquetro-semicylindricis longissimis glaucis incurvantibus, caulibus valde angulatis, nodis distantibus. *corniculatum.* 52. *
M. corniculatum α. Willd. Sp. Pl. 2. 1040.—*Plantes Grasses, page* 108. *cum icone.*—*Linn. Hort. Clif.* 219. 21.—*M. foliis corniculatis longioribus Dill. Elth. t.* 199. *f.* 254.
HABITAT Cap. Bon. Sp. ♃.
FLORET Mar.—Mai. rarius A. M.
DESCRIPTIO. Præcedenti affinis: differt statura majore, internodiis ramorum longioribus, foliis duplo longioribus seu 4-uncialibus et ultra, et glaucis nec viridibus. *Pedunculi* primo terminales, dein axillares subangulati bibracteati. *Calyx* quinquefidus laciniis subæqualibus basi planis. *Corolla* speciosa biuncialis, petalis latiusculis obtusis emarginatis intus splendide-luteis extus pallidioribus, linea dorsali rubropurpurea eleganter notatis. *Filamenta* brevia patentia. *Styli* circiter 13 subulati recurvantes sordide purpurei filamentis paulo longiores.

M. foliis teretibus tripollicariis acutis viridibus, petalis basi purpureis, stylis 20. *tricolorum.* 53.
M. tricolorum Haworth's Mesemb. no. 65. *p.* 233.

HABITAT

HABITAT Cap. Bon. Sp. ♃.
FLORET Oct.—Nov. rarius A. M.
DESCRIPTIO. Habitus M. *corniculati* at species valde distincta in foliis omnino et semper teretibus; in numero stylorum; et denique purpurea basi petalorum. *Caules* prostrati ramulis remotis. *Pedunculi* axillares elongati teretes. *Calyx* 5-(semel 6-) fidus laciniis inæqualibus basi planis, apice plus minusve foliaceis et acutis. *Corolla* magna et pulcherrima, petalis anguste linearibus inæqualibus stramineis nitentibus, basi sanguineo-purpureis. *Filamenta* erecto-patentia læte sanguineo-purpurea. *Antheræ* pulchre fuscescentes oblongæ utraque emarginatæ. *Pollen* fuscum. *Styli* numerosissimi, (circiter 20) subulati breves expansi compressi virescentes.

**** CAPITATA. *Foliis densissime alternis capitatis longissimis, caule senecto decumbente, petalis perangustis a basi ad medium ciliatis.*

elongatum. M. foliis obtuse triquetris subspithameis marcescenti-deciduis,
54. petalis pube flexuoso ciliatis, radice tuberoso.
M. elongatum Haworth's Mesemb. no. 66. p. 236. et App. no. 13. p. 420?
HABITAT in Nova Hollandia? ♃.
FLORET Mai.—Oct. P. M. at rarissime.
DESCRIPTIO. *Radix* perennis tuberosus magnitudine per ætatem increscente. *Caudex* simplex perbrevis decumbens. *Folia* subspithamea obsolete triquetra vel rarius teretiuscula subcanaliculata glauca subulata, apicibus obtusis, capitulo conferta, effusa, summa alterna paulo breviora et fere bracteacea. *Pedunculi* 1—3 terminales teretes; pedunculus medius seu princeps ebracteatus (nisi ad basin) fere longitudine foliorum: duo laterales multo breviores, et ad medium bracteis duabus foliiformibus instructi. *Calyx* maximus subcampanulatus profunde quinquefidus laciniis inæqualibus, duabus cæteris multo majoribus basi planis ovatis, apicibus teretiusculis elongatis foliiformibus; tertia lacinia simillima sed minor, uno latere membranâ diaphanâ pallente fusco-striatâ instructâ: laciniis 4 et 5 cæteris paulo minoribus utraque (apicibus foliaceis exceptis) membrana pallida fusco-striata alte instructis. *Corolla* maxima omnium sine dubio in hoc genere valde numeroso, seu 5-uncialis et ultra, speciocissima, odore hircino, petalis in seriebus plurimis, angustissimis acutissimis et fere capillaceis splendide sulphureis, a basi ad medium pube flexuoso ciliatis; quæ huic sectioni peculiaris est. *Filamenta*

brevia

brevia numerosissima exteriora erecta, interiora convergentia sulphurea. *Antheræ* parvæ pallidæ. *Styli* 19 longitudine filamentorum apicibus recurvis.

OBS. For this very fine species I am indebted to the friendship of Mr. Aiton of Kew.

M. foliis longissimis teretibus acutis, laciniis falcatis calycinis petalis longioribus, radice fusiformi. *fusiforme.* 55. *

Chrysanthemum aizoides, &c. Breyn. Cent. 162. *t.* 80.—*Moris. Hist. Pl.* 3. *sect.* 12. *t.* 6. *f.* 12.

HABITAT Cap. Bon. Sp. ♃.

FLORET autumno tempore.

OBS. I never saw this species, but have taken it up from the above cited figure and description of *Breynius*, who supposes it to be an annual. In this I conceive him to be mistaken, from the great similarity of this plant to the preceding, whose leaves die down to the ground every autumn, after which the plant is torpid and appears dead until the following May. The specific differences between the two appear to be, the large irregular shaped root in the preceding; the fusiform one of this; the columnar leaves in the latter, which are semicolumnar in *elongatum*; and lastly the petals, which are shorter than the calyx and destitute of pubescence in *fusiforme*; not ciliated from the base to the middle, and longer than the calyx, as in *elongatum*.

M. foliis æquilateri-triquetris glaucescentibus, membranis calycinis pallidis, petalis luteis longitudine calycis, exterioribus purpurascentibus, stylis strictis setaceis. *capitatum.* 56.

M. pugioniforme short-leaved. Haworth's Mesemb. p. 390.—*Chrysanthemum aizoides Africanum flore aureo Breyn. Cent. t.* 81.—*Ficoides Capensis Caryophilli folio, flore aureo specioso, Brad. Succ.* 2. 5. *t.* 14.—*Astero aizoidè Capo di Buona Speranza, p.* 35. *tab.* 13.—*Linn. Hort. Clif.* 216. 2.—*Linn. Hort. Ups.* 129. 9.—*Moris. Hist. Pl.* 3. *sect.* 12. *tab.* 6. *f.* 11.

HABITAT Cap. Bon. Sp. ♄.

FLORET Jul.—Sept. A. M.

DESCRIPTIO. Suffrutex, radice fibrosa, caudice simplici; senecto pedali et ultra, sed pro ratione oneris foliorum sæpe decumbente. *Folia* in summa caulis in capitulo formosa, interiora erecta, seniora sensim patentia longissima (6-uncialia) subulata subæqualiter triquetra, glaucescentia impunctata, angulis plus minusve canaliculatis. *Pedunculi* in ramis angulatis subverticillatis foliaceis elongatis decumbentibus infra capitis foliorum enatis, subpaniculati longissimi (4-unciales)

(F) obsolete

obsolete angulati aliquo asperi et æquali crassitie. *Folia* ramorum breviora quam cæteris, sæpe remota ternata vel alterna et naturæ omnino bractearum. *Calyx* peramplus 5-angulatus 5-fidus laciniis fere æqualibus, basi planis semiorbiculatis, apicibus uncialibus teretiusculis subulatis, interioribus (laciniis) basi membrana pallida alte instructis, quæ (membrana) in lacinia minore dimidiata est, ut in plurimis. *Corolla* perampla triuncialis, petalis multiserialibus, infra medium subciliatis, exterioribus linearibus acutis purpurascentibus, mediis lineari-lanceolatis nitidissime luteis seu quasi sericeis, interioribus capillaceis incurvis. *Filamenta* numerosa brevia lutea incurva, a stylis denudatis remota. *Antheræ* luteæ, farina copiosissima itidem lutea. *Styli* 16 breves erecti setacei lutescentes. *Germen* hemisphæricum magis depressum quam in cæteris. *Capsula* multilocularis.

Obs. I dare not cite the figure of *Dill. Elth. t.* 210. for this plant (although nearer to it than the next species), because the capsule there delineated is very much less depressed, and not so broad as in this species, whose petals and leaves are shorter than those given on his plate.

β. Floribus rubicundis.

* *Chrysanthemum aizoides africana triangulari folio flore purpureo Breyn. Cent. Pl. p.* 164.

γ. Floribus carneis.

* *Chrysanthemum aizoides africana triangulari folio flore carneo Breyn. Cent. p.* 164.

pugioniforme. 57. M. foliis compresso-triquetris glaucis, membranis calycinis exustis, petalis stramineis calyce brevioribus, stylis expansis lineari-lanceolatis.

M. pugioniforme Plantes Grasses, page 72. *cum icone.*

Habitat Cap. Bon. Sp. ♄.

Floret Jul.—Sept. A. M.

Descriptio. Radix fibrosa. *Caudex* semipedalis et ultra. *Folia* ante florescentiam in capitulo denso terminali ut in præcedente, longissima (sæpe fere pedalia) glauca compresso-triquetra subulata impunctata, angulis aliquo canaliculatis. *Pedunculi* in ramis foliaceis angulatis elongatis decumbentibus subverticillatis, terminalibusque, subpaniculati longissimi (6-unciales) angulati asperi æquali crassitie. *Folia* ramorum ut in præcedente at majora. *Calyx* ut in præcedente sed membranis majoribus valde exustis et scariosis, nec pallidis. *Petala* ut in præcedente sed straminea nitidissima et calyce breviora. *Filamenta* straminea, antheris farinaque saturatioribus, a stylis denudatis remota. *Styli* 15 expansi

expansi lineari-lanceolati straminei lateribus aliquo ramentaceis. *Germen* et *Capsula* ut in præcedente.

OBS. This and the noble species which precedes it are extremely alike; but differ sufficiently in the notes above given. I have raised them both from seed, and they retain their distinctions; the former has lived nine years with me after being raised from a cutting, the latter survives no more than two or three years: *capitatum* is little more than half the size of *pugioniforme*, and less glaucous, but its flowers are as large, last longer, and open two hours later in the morning. Had the latter produced no terminal flowers, it would unquestionably have been a true perennial species. All terminal-flowering plants (which have no lateral or radical shoots) die after producing their fructifications, as is exemplified even in the long-lived *Agave* and others. To counterbalance this, Nature, ever solicitous to prevent the destruction of her children, has made them of all others the most certain and abundant producers of seed; as is well seen in annual and biennial plants.

***** PLANIFOLIA. *Foliis planis sæpe subcarinatis, caulibus sæpe decumbenti-prostratis effusis.*

† ANNUA. *Radice semper annua.*

+ Undulata. *Marginibus foliorum undulatis vel pinnatifidis.*

M. foliis alternis ovatis undulatis papulosis, floribus sessilibus, calycibus late ovatis retusis acutisque. *crystallinum.* 58.

M. crystallinum Haworth's Mesemb. no. 2. *p.* 113.—*Willd. Sp. Pl.* 2. 1033.—*Gært.* 2. 201. *tab.* 126.—*Linn. Hort. Clif.* 216. 1.—*Linn. Hort. Ups.* 127. 2.—*M. crystallinum plantaginis folio undulato Dill. Elth. t.* 180. *f.* 221.—*Ficoides africana, &c. Brad. Suc.* 5. 15. *t.* 48.—*Ficoides peregrina procumbens maxima foliis latissimis, una cum caulibus crystallina aspergine ornatis. Pluck. Amalth.* 90.

HABITAT Cap. Bon. Sp. ☉.

FLORET Mai.—Aug. A. M.

DESCRIPTIO. Tota planta sed præcipue *Calyces* axillares alterni subsessiles 5-fidi, papulis crystallinis pulcherrime nitentes. Laciniæ calycis inæquales, 3 exteriores multo majores, 2 interiores parvæ, sæpe purpurascentes, acutæ, lateribus membranaceis. *Corolla* parva misera petalis angustissimis

seu

seu capillaceis extus roseis intus albis. *Filamenta* valida convergentia. *Antheræ* albicantes. *Styli* 5 filamentis longiores erecti apicibus recurvantibus.

β. Corolla alba.

crispum. 59. M. foliis alternis ovatis petiolatis undulatis, petalis minutis rubicundis, radice annua.

M. crispatum Haworth's Mesemb. App. no. 8. *p.* 470.—*Broad curled-leaved Cape Fig-marygold with a purple thrummy flower. Pet. Gaz. Cat.* 477. *t.* 88. *f.* 5.

HABITAT Cap. Bon. Sp. ⊙.

FLORET æstate tempore.

OBS. This species I never saw, but admit it on the authority of *Pet. Gaz.* above cited; it appears very distinct in its purple flowers and broad undulated or curled leaves, from the yellow-flowered and narrower-leaved *pinnatifidum,* although nearer allied to it than to any other species.

pinnatifidum. 60. M. foliis oblongis pinnatifidis papulosis, petalis minutis luteis.

M. pinnatifidum Haworth's Mesemb. no. 1. *p.* 112.—*Willd. Sp. Pl.* 2. 1032.

HABITAT Cap. Bon. Sp. et etiam in Chili. ⊙.

FLORET Mai.—Oct. A. M.

DESCRIPTIO. Flores axillares minuti lutei.

++ Integra. *Marginibus foliorum integris nec undulatis.*

glabrum. 61. M. foliis amplexicaulibus distinctis spatulatis glaberrimis, pedunculis longitudine foliorum, calycibus hemisphæricis.

M. glabrum Willd. Sp. Pl. 2. 1034.—*M. glabrum Andrews's Bot. Rep. t.* 57.

HABITAT Cap. Bon. Sp. ⊙.

FLORET Julio—Oct. P. M.

DESCRIPTIO. *Radix* annua fibrosa, *Folia* spatulato-elliptica utrinque glabra sæpe (præcipue superiora) ciliata. *Pedunculi* subsimplices terminales cylindrici longitudine foliorum glabri, infra medium bracteati. *Calyx* quinquefidus laciniis subæqualibus planis obtusis ciliatis, duabus majoribus sine membrana laterali; tertia et quarta basi lateribus alte membranaceis; quinta lateri unico tantum membrana munita. *Corolla* 2—3-uncialis petalis linearibus subulatis acutis lucide-luteis. *Filamenta* tenuissima albida convergentia. *Antheræ* luteæ. *Styli* numerosi graciles. *Germen* depresso-orbiculatum costatum.

M. foliis planiusculis late-lanceolatis lævibus subciliatis distinctis, caule pedunculis germinibusque hirtis. *pomeridianum* 62.

M. pomeridianum Haworth's Mesemb. no. 7. p. 118. et App. no. 16. p. 423.—Willd. Sp. Pl. 2. 1034.—Curtis's Bot. Mag. t. 540.—Jacq. Icon. 3. p. 6. 589. tab. 489.—Seba Thes. vol. 1. tab. 19. fig. 5.

HABITAT Cap. Bon. Sp. ☉.

FLORET Aug.—Oct. P. M.

DESCRIPTIO. *Radix* annua fibrosa. *Caulis* erectiusculus brevis ramosus. *Rami* axillares oppositi adscendentes teretes villosi. *Folia* viridia late lanceolata obtusa subciliata subcarinata carnosa, et sæpe prope basin subcanaliculata. *Pedunculi* terminales teretes villis horizontalibus vestiti. *Calyx* hemisphæricus quinquefidus laciniis inæqualibus, duabus latioribus et longioribus planis ciliatis, duabus minoribus subciliatis, lateribus basi membranaceis, quinta uno latere tantum membranacea ut in præcedente; membranæ in omnibus laciniis lineis fuscis notatæ. *Corolla* maxima speciosa petalis numerosissimis seriebus plurimis, angustis acutis sed subinde emarginatis luteis, interioribus sensim minoribus. *Filamenta* interiora valde convergentia seu incurva. *Antheræ* minutæ flavescentes. *Styli* numerosi filamentis breviores erecti filiformes albidi, apicibus extrorsum subnutantibus.

M. foliis planis lævibus, pedunculis longissimis, calycibus basi planis angulatis. *Helianthoides* 63.

M. Helianthoides Haworth's Mesemb. 2. no. 6. p. 117.—Willd. Sp. Pl. 1034.

HABITAT Cap. Bon. Sp.

FLORET Aug.—Oct. ☉.

OBS. I have not yet seen this fine species: it is very closely allied to the two preceding, but more especially to *glabrum*: the flowers, I am informed by a friend who saw them, are yellow and extremely large.

M. foliis alternis lanceolatis obtusiusculis papulosis, calycibus pedunculatis crystallinis. *lanceolatum.* 64.

M. Volckameri Haworth's Mesemb. App. no. 4. p. 426.—Raj. Hist. pl. 3. 365. 7.

HABITAT Cap. Bon. Sp. ☉.

FLORET Mai.—Oct. A. M.

DESCRIPTIO. *Radix* annua fibrosa. *Rami* numerosi prostrati dichotome-alterni teretes papulosi. *Folia* alterna, lanceolata, subinde elliptica vel lanceolato-spatulata obtusiuscula papulosa, superiora aliquo remota. *Flores* terminales in panicula

panicula dichotoma semper pedunculati. *Pedunculi* teretes brevissimi (1—3-lineares) papulosi. *Calyx* papulis crystallinis vestitus, laciniis quinque inæqualibus; duabus majoribus planis, basi papulis rubicundis subciliatis, laciniis 3 et 4 lateribus membranaceis, lacinia quinta altera margine membranacea ad basin, altera papulis rubicundis ciliiformibus. *Corolla* parva, petalis serie unica cuneato-linearibus obtusis subemarginatis albis, extus apice flavo-purpurascentibus. *Filamenta* alba expansa inæqualia. *Antheræ* flavescentes. *Styli* 5 subulati patentes lutei. *Germen* orbiculatum 5-costatum 5-loculare.

OBS. I named this plant *lanceolatum* several years since; and as it is generally known by that applicable name, I prefer it to that of *Volckameri*, which it bears in my *Observations* on this Genus.

sessiliflorum. 65. M. foliis planis spatulatis caulibusque papulosis, ramis divaricatis, floribus sessilibus.

M. sessiliflorum Haworth's Mesemb. no. 4. p. 116.—Willd. Sp. Pl. 2. 1034.—M. filiforme Thunb. Prod. 89. ?

HABITAT Cap. Bon. Sp. ⊙.

FLORET Jul.

OBS. I have not yet seen this species. It appears to differ from the last specifically in having sessile, not pedunculated flowers.

limpidum. 66. M. foliis oppositis spatulatis obtusis scabridis papulis oblongis, foliolis calycinis oblongis obtusis medio coarctatis.

M. limpidum Haworth's Mesemb. no. 3. p. 116.

HABITAT Cap. Bon. Sp. ⊙.

FLORET Jul.

OBS. I have not yet seen this species, which was inserted in my *Observations* from the *Hort. Kew.* Professors Gmelin and Willdenow have both omitted it.

spatulatum. 67. * M. acaule, foliis petiolatis spatulatis papulosis, caule unifloro.

M. spathulatum Willd. Sp. Pl. 2. 1024.

HABITAT Cap. Bon. Sp. ⊙.

FLORET æstate tempore.

DESCRIPTIO. *Planta* parva uncialis. *Radix* simplex filiformis. *Folia* semiuncialia plana lanceolata spathulata obtusa petiolata utrinque papulosa. *Scapus* longitudine foliorum. *Flos* magnitudine Bellidis perennis albus. *Calyx* campanulatus 5-fidus laciniis oblongis obtusis, unica majore margine membranaceo. *Petala* numerosa linearia levissime emarginata calyce

calyce duplo longiora. *Filamenta* calyce breviora. *Willd. Sp. Pl.* l. c.

OBS. The largest segment of the Calyx in this species (which I have not seen) has a membranaceous edge; in every other species the smaller segments alone have it.

M. foliis lanceolato-cuneiformibus oppositis integerrimis planis sessilibus cum caule ramoso purpureo papulosis. *cuneifolium.* 68.

M. cuneifolium Jacq. Collect. vol. 2. *p.* 319.—*Jacq. Icon. p.* 6. 488. *tab.* 488.—*Haworth's Mesemb. App. no.* 1. *p.* 424.—*Seba Thes. vol.* 1. *tab.* 9. *f.* 3.

HABITAT Cap. Bon. Sp. ⊙?

FLORET æstate?

OBS. I have not yet seen this species. If its leaves had been alternate, I should have thought it the same as my *lanceolatum.*

M. foliis ovatis scapis unifloris. *criniflorum.* 69.

M. criniflorum Haworth's Mesemb. App. no. 2. *p.* 425.

HABITAT Cap. Bon. Sp. ⊙.

FLORET æstate?

OBS. This species also I have not yet seen.

M. foliis lineari-lanceolatis ciliatis, caule pedunculis bracteisque hirtis, floribus polygynis. *pilosum.* 70. *

HABITAT Cap. Bon. Sp. ⊙.

FLORET Jun.—Aug. A. M.

DESCRIPTIO. *Radix* annua fibrosa. *Rami* prostrati paniculato-dichotomi teretes valde hirsuti. *Folia* opposita connata lineari-lanceolata ciliata carnosa. *Pedunculi* terminales teretes hirti elongati dichotomi, infra medium bracteati. *Calyx* magnus 5-partitus hirtus laciniis inæqualibus, 2 majoribus apicibus foliiformibus, 3 minoribus lateribus plus minusve membranaceis. *Corolla* nitide lutea petalis numerosis, exterioribus emarginatis, interioribus capillaceis. *Filamenta* numerosa subconvergentia. *Styli* circiter 15 subulati erecti longitudine filamentorum.

M. foliis oppositis lanceolatis acutis ciliatis, pedunculis subterminalibus longissimis solitariis hirtis. *calendulaceum.* 71. *

Chrysanthemum aizoides, &c. Breyn. Cent. 160. *t.* 79.—*Moris. Hist. Pl.* 3. *sect.* 12. *t.* 6. *f.* 13.

HABITAT Cap. Bon. Sp. ⊙.

FLORET Sept. Oct.

OBS.

OBS. This species I have not seen, but take it up on the authority of the above cited figure and description: it appears to be allied to my *hirtum*, but has broader leaves, longer peduncles, and fewer flowers: it also has an affinity with *Helianthoides*, but has narrower leaves, and is a much more hairy plant. From *pomeridianum* it differs in having simple upright stems, narrower leaves, and less hairy calyces, but is perhaps only a variety of that species.

papulosum. 72. * M. foliis oppositis spatulato-oblongis papulosis, floribus pedunculatis, calycibus linearibus.

M. papulosum Linn. Supp. Pl. 259. (*excluso synonymo Jacquini.*)

HABITAT Cap. Bon. Sp. ⊙.

FLORET ....

DESCRIPTIO. *Caules* et rami depressi, teretes, papulosi ut omnes plantæ partes, una cum calyce apice dichotomi. *Folia* opposita, amplexicaulia, fere connata spatulato-oblonga, obtusiuscula. *Flores* ex dichotomiis, solitarii, erecti, pedunculati; pedunculis filiformibus, deflexis. *Calyx* laciniis inæqualibus, lineari-subulatis. *Corolla* vix calyce longior, lutea. *Capsulæ* depressæ, nudæ. Differt a M. crystallino, cui papulis crystallinis simillimum, caule graciliore; foliis oppositis, angustioribus; laciniis calycinis subulatis, nec ovatis, latissimis; corolla multo minori, lutea, quæ in M. crystallino magna, alba. *Supp. Pl.* l. c.

OBS. Nunquam vidi vel vivam vel siccam. M. *Aitoni* affinis at sine dubio alia est: dignoscitur radice annua, caulibus teretibus, foliis oppositis, pedunculis filiformibus deflexis, laciniis calycinis lineari-subulatis, et corolla lutea, et denique capsula depressa: a quibus notis M. *Aitonis* nobis, et Cel. Jacquini, toto cœlo discrepat.

†† BIENNIA. *Radice semper bienni, foliis planis.*

Aitonis. 73. M. foliis oppositis alternisque ovato-spatulatis subundulatis papulosis, ramis calycibusque angulatis.

M. Aitonis Jacq. Hort. Vindob. vol. 3. *p.* 8. *tab.* 7.—*M. papulosum Willd. Sp. Pl.* 2. 1033.—*Ait. Kew.* 2. 182. *excluso synonymo Linnæi.*—*M. angulatum Thunb. Prod.* 91.

HABITAT Cap. Bon. Sp. ♂.

FLORET Jun.—Oct. P. M.

DESCRIPTIO. Tota planta papulosa. *Radix* semper biennis fibrosus. *Rami* subdichotomi alterni numerosi effusi decumbentes

bentes obsolete angulati. *Folia* spatulato-ovata parum undulata remota viridis, ima opposita, summa alterna. *Flores* subdichotomi. *Pedunculi* subunciales robusti patentes vel axillares vel ex oppositionibus foliorum, valde angulati et subinde bractea una alterave foliiformi muniti infra medium. *Calyx* quinquangularis angulis fere alatis, 5-partitus laciniis valde inæqualibus, 2 exterioribus majoribus basi dilatatis superne spatulato-ovatis, 3 interioribus minoribus lateribus plus minusve membranaceis ut in plurimis. *Corolla* pulchella pomeridie vespereque expansa, petalis seriebus variis, exterioribus cuneato-linearibus hilariter rubicundis basi albis, interioribus sensim minoribus seu fere capillaceis et omnino albissimis. *Filamenta* inæqualia, exteriora longiora recurvantia, interiora erecta. *Antheræ* parvæ luteæ. *Styli* quinque lutei filamentis longiores erecti, apicibus recurvis. *Germen* ovale quinquangulare apice umbilicato. *Capsula* pulposa 5-locularis.

M. foliis lanceolatis planis impunctatis, radicalibus capitatis, ramorum alternis, calycibus pentagonis. *Tripolium.* 74.
M. Tripolium Haworth's Mesemb. no. 12. *p.* 122.—*Willd. Sp. Pl.* 2. 1030.—*Linn. Hort. Clif.* 217. 11.—*Linn. Hort. Ups.* 128. 3.—*M. Tripolii folio Dill. Elth. t.* 179. *f.* 220.—*Ficoides africana, &c. Brad. Succ.* 5. *p.* 14. *t.* 47.—*Ficoides africana Mesembryanth. seu Ficus aizoides, &c. Pluck. Mant.* 77. *t.* 329. *f.* 4.—*Raj. Hist. Pl.* 3. 364. 3.
HABITAT Cap. Bon. Sp. ♂.
FLORET Jun.—Aug. A. M.

††† PERENNIA. *Radice semper perenni.*

M. foliis oppositis cuneato-obovatis, caule valde flexuoso, petalis antherisque rubicundis, radice fusiformi. *laurifolium.* 75.
M. laurifolium Haworth's Mesemb. App. p. 470. *no.* 7.—*Blue Cape Fig-marygold with Bay leaves, and a Parsnip root, the middle of the flower full of threads tipped with purple. Pet. Gaz. Cat.* 476. *t.* 88. *f.* 4.
HABITAT Cap. Bon. Sp. ♃.
FLORET ....
OBS. On the faith of Petiver's figure and description alone, I take up this species, having never found it in any collection of plants, either living or dead. It is too distinct to be confounded with any.

humifusum. M. foliis amplexicaulibus spatulatis carinatis, papulis conicis,
76. scabris, petalis minutissimis.
M. humifusum Haworth's Mesemb. no. 48. *p.* 191.—*Willd. Sp. Pl.* 2. 1033.
HABITAT Cap. Bon. Sp. ♄.
FLORET Jul. Aug.
OBS. I have not yet seen this species.

cordifolium. M. foliis petiolatis cordatis ovatisque papulosis, caule tereti, caly-
77. cibus sæpe quadrifidis.
M. cordifolium Haworth's Mesemb. no. 49. *p.* 192.—*Willd. Sp. Pl.* 2. 1032.—*Plantes Grasses, page* 102. *cum icone.*—*Jacq. Collect. v.* 2. *p.* 294.—*Jacq. Icon. p.* 6. *tab.* 487.
HABITAT Cap. Bon. Sp. ♄.
FLORET Jan.—Dec. A. M.

expansum. M. ovato-lanceolatis confertis oppositis alternisque remotis.
78. *M. expansum Haworth's Mesemb. no.* 50. *p.* 195.—*Willd. Sp. Pl.* 2. 1035. *excluso synonyma Petiverii quod ad M. subcarinatum pertinet.*—*M. tortuosum Plantes Grasses, page* 94. *cum icone.*—*M. tortuosum foliis Sempervivi expansis Dill. Elth. t.* 182. *f.* 223.—*Linn. Hort. Cliff.* 217. 10.—*Ficoides africana procumbens, &c. Brad. Succ.* 3. *p.* 7. *t.* 25.
HABITAT Cap. Bon. Sp. ♄.
FLORET Jul.—Aug. A. M.
DESCRIPTIO. Radix fibrosa. *Rami* et *Ramuli* sæpe oppositi teretes grossi decumbentes seu prostrati cylindracei, juniores papuloso-nitentes, superne paulo incrassati, seniores cinerei. *Folia* sæpe opposita subconnata papulosa patentia ovato-lanceolata carnosa obsolete carinata et canaliculata seu concava, præcipue prope basin. *Pedunculi* axillares seu terminales sæpe oppositi teretes grossi et superne incrassati, subinde bracteati, papuloso-nitentes. *Calyx* magnus pyriformis laciniis inæqualibus quinque, 3 interioribus maximis cordatis acutis, 2 interioribus minoribus lateribus plus minusve membranaceis, apicibus acutis. *Corolla* magna, petalis albido-luteis angustis in seriebus plurimis, interioribus sensim minoribus. *Filamenta* inæqualia convergentia brevia lutescentia. *Antheræ* farinaque læte aurantiæ. *Styli* 6 breves erecti obtusi lutei. *Capsula* obsolete 6-angulata 6-locularis.
OBS. Folia senecta exsiccata persistentia scariosa et tunc subhyalina, et quasi tessellata.

anatomicum. M. foliis lanceolato-ellipticis papulo-crystallinis, petalis sta-
79. minibusque argenteis, caulibus filiformibus.
*

HABITAT

HABITAT Cap. Bon. Sp. ♄.
FLORET Jul.—Aug. A. M.
DESCRIPTIO. Tota planta papulosa (exceptis partibus senectis). *Rami* et *Ramuli* decumbentes seu prostrati filiformes teretes oppositi. *Folia* opposita lanceolato-elliptica carnosa; senecta exsiccata persistentia scariosa et hyalina, venis pulchre tessellatis. *Pedunculi* terminales teretes superne incrassati papuloso-asperi. *Calyx* ficiformis 4—5-fidus laciniis fere ut in præcedente, at duplo minoribus. *Corolla* præcedente minor, petalis omnino argenteis. *Filamenta* itidem argentea. *Antheræ* farinaque aurantiæ. *Styli* 6 præcedente longiores lutescentes apicibus recurvis acutis. *Germen* ovale 6-angulatum, loculisque 6.
OBS. This is much like the preceding, but is nearly as small again, with much slenderer stems, more silvery and smaller leaves; and silvery, not yellow petals, longer styles, and smaller capsules. The dried leaves remain long upon the plant, and become at length real skeletons, giving it a very singular appearance.

M. foliis lanceolatis acuminatis carinatis, subinde obtuse triquetris canaliculatisque, pedunculis crassissimis. *varians.* 80. *
Ficoides capensis folio late-acuto flore albo intus luteo, Pet. Gaz. t. 78. *f.* 10.
HABITAT Cap. Bon. Sp. ♄.
FLORET Jul.—Oct. A. M.
DESCRIPTIO. Tota planta (caulibus senectis exceptis) papulosa. *Rami* prostrati teretes carnosi ut in præcedente. *Folia* opposita planiuscula lanceolata acuminata seu lanceolato-elliptica, sæpe triquetra, supra concava, angulis apicibusque obtusis, papulis ovatis exertis crebre ornata. *Pedunculi* terminales aliquo paniculati teretes adscendentes valde incrassati, præcipue prope calycem. *Calyx* magnus turbinatus laciniis 4—5 ut in duabus præcedentibus sed crassioribus magisque acuminatis. *Corolla* fere ut in M. *expanso*, petalis minus luteis seu albicantibus. *Filamenta* et *Antheræ* ut in M. *expanso*, sed paulo pallidiores. *Styli* 5 perbreves percrassi lutescentes, apicibus obtusissimis recurvis. *Capsula* subovalis, superne quinquangula 5-locularis.

M. foliis confertis ovato-lanceolatis acuminatis concavis subcarinatis, calycibus triphyllis bicornibus. *tortuosum.* 81.
M. tortuosum Haworth's Mesemb, no. 51. *p.* 196.—*Willd. Sp. Pl.* 2. 1036.—*M. tortuosum foliis Sempervivi congestis Dill. Elth.*

Elth. t. 181. *f.* 222.—*Linn. Hort. Clif.* 217. 10. *α.*—*Ficoides capensis procumbens oleæ folio flore albo medio croceo Brad. Succ.* 2. *p.* 7. *t.* 16.

HABITAT Cap. Bon. Sp. ♄.

FLORET Mai.—Oct. A. M.

DESCRIPTIO. Planta papulosa. *Rami* aliquo tortuosi et prostrati ut in præcedentibus. *Folia* juniora convergentia. *Pedunculi* terminales, sæpius oppositi teretes grossi, superne valde incrassati, bracteis amplectentibus oppositis oblongo-ovatis acuminatis concavis et subtus convexis, sæpe instructi. *Calyx* 4—5-fidus laciniis maxime inæqualibus, 2 multo majoribus cordato-ovatis acuminatis, tertia minore uno latere membranata; 4 et 5 valde exiguæ lateribus membranaceis, apicibus subulatis. *Corolla* junior flavescens, senior albicans, petalis valde inæqualibus, seriebus plurimis, interioribus fere capillaceis. *Filamenta* flava. *Antheræ* aurantiæ. *Styli* 5 breves apicibus obtusis recurvatis luteo-virescentes.

OBS. The four preceding species resemble each other very much, and possess many characters in common; viz. trailing stems, flat acuminated papulose green leaves, large incrassated and somewhat paniculated peduncles, and large fleshy calyces, with 2 large cordated segments, and 3 others whose size compared to them is extremely small. The structure of the flowers is exactly the same in all. They are however readily distinguished from each other by the following characters. M. *expansum* has the broadest and thinnest leaves. M. *anatomicum* is the smallest of all the four, and has by much the slenderest stems and peduncles, and most silvery leaves, which remain on the plant until they become perfect skeletons, by which it is distinguishable even at a distance. Its silvery petals also separate it from all the others. M. *varians*, which is the most fleshy, is known by its often having true triquetrous leaves and flat ones also; and by having the most robust peduncles in the whole genus. And lastly, M. *tortuosum* is known by having the most fasciculated and channelled leaves, which when young, do not expand so much as in the other three species.

pallens. 82. M. foliis glaucis oppositis oblongo-lanceolatis acutis canaliculatis obtuse carinatis.

M. pallens Haworth's Mesemb. no. 52. *p.* 197.—*Willd. Sp. Pl.* 2. 1035.—*M. expansum Plantes Grasses, page* 47. *cum icone.*

HABITAT Cap. Bon. Sp. ♃.

FLORET Jul.—Oct. A. M.

OBS.

OBS. This species is closely allied to the four preceding, but is most readily distinguished by its glaucous leaves. Its flowers are white.

†††† INCOGNITA. (*a*) *Radice ignota.*

M. foliis connatis ovatis papulosis, ramis erectis fastigiatis, floribus albis. *erectum.* 83. *
M. fastigiatum Thunb. Prod. p. 88.
HABITAT Cap. Bon. Sp. ♄ ?
OBS. The erect branches separate this from all the preceding species of this section. I have therefore changed the pre-occupied name *fastigiatum* to that of *erectum.*

M. foliis ovatis, extimis emarcidis, caule erectiusculo ramoso glabro, floribus albis. *emarcidum.* 84. *
M. emarcidum Thunb. Prod. 88.
HABITAT Cap. Bon. Sp. ♄ ?
OBS. This may be allied to my *anatomicum.* That has a prostrate, this an erectish stem: *anatomicum* is beautifully papulose; this is not described to be so.

M. foliis lineari-lanceolatis, caule erectiusculo ramoso, floribus secundis albis. *articulatum.* 85. *
M. articulatum Thunb. Prod. p. 88.
HABITAT Cap. Bon. Sp. ♄ ?
OBS. I know no species with *flores secundi.*

M. foliis ovatis planis, floribus terminalibus albis, caule decumbente. *ovatum.* 86. *
M. ovatum Thunb. Prod. p. 89.
HABITAT Cap. Bon. Sp. ♄ ?

(*a*) *Obs.* The 6 following species I give in a subdivision by themselves on the authority of *Thunberg's Prodromus*; having never seen them: they appear distinct from all the preceding, but clearly belong to some of the divisions or subdivisions of the present section. All the other species in the above work, which are either new, or old species described as new, I have noticed under their proper heads; the remaining species of Thunberg I have not thought it necessary to refer to, as his descriptions are by much too short to convey any certain information to any but an adept in this department of Botany.

OBS.

OBS. If the leaves of this had been described as very papulose, I should have thought it was my *anatomicum*; or if they had been called glaucous, it would have come very near to *canaliculatum*.

lanceum. 87. * M. foliis lanceolatis planis, floribus terminalibus albis, caule erecto subtetragono.
M. lanceum Thunb. Prod. p. 89.
HABITAT Cap. Bon. Sp. ♄ ?
OBS. The erect quadrangular stem and lanceolate leaves separate it from every species I am acquainted with.

sabulosum. 88. * M. foliis oblongis planis integerrimis, floribus luteis.
M. sabulosum Thunb. Prod. p. 89.
HABITAT Cap. Bon. Sp.
OBS. This can scarce be *canaliculatum*, because the leaves are not called glaucous.

****** CANALICULATA. *Foliis linearibus, junioribus canaliculatis subtus convexis, ramis saepe suffrutescentibus, radice saepe perenni, rarius annua.*

† ANNUA. *Radice annua.*

nodiflorum. 89. M. foliis alternis teretiusculis obtusis basi ciliatis.
M. nodiflorum Haworth's Mesemb. no. 8. *p.* 118.—*Linn. Hort. Ups.* 129. 10.—*Willd. Sp. Pl.* 2. 1043.—*Kali crassulae minoris foliis Moris. Hist.* 2. *p.* 610. *f.* 5. *t.* 33. *f.* 7.
HABITAT in Ægypto, Neapoli arenosis. ☉.
FLORET Aug.—Oct. A. M.
DESCRIPTIO. *Radix* annua. *Caules* decumbentes ramulis alternis. *Folia* opposita seu alterna basi rarius ciliata. *Flores* subaxillares subpedunculati parvi. *Calyx* 5-partitus laciniis valde inaequalibus. *Corolla* petalis albis valde angustis, laciniis calycinis saepe brevioribus. *Capsula* 5-angulata 5-locularis.

apetalum. 90. M. foliis amplexicaulibus distinctis linearibus supra planis, internodiis papulosis longioribus, papulis oblongis, floribus pedunculatis, calycibus quinquefidis.
M. apetalum Haworth's Mesemb. no. 9. *p.* 119.—*Willd. Sp. Pl.* 2. 1036.
HABITAT Cap. Bon. Sp. ☉.

FLORET Aug.
DESCRIPTIO. *Caules* herbacei, prostrati, teretes, rubentes; punctis obsoletis, papulosis, nitentibus, ut tota planta, obtecti. *Folia* opposita, linearia, parumque lanceolata, succulenta, supra canaliculata, subtus semicylindrica, papulis submuricata, obtusa. *Pedunculi* breves, papulosi, uniflori. *Calyx* foliolis inaequalibus, subulato-cylindricis. *Petala* 24, alba, distantia, setacea, brevissima, quasi totidem filamenta absque antheris, germini incumbentia. *Antherae* fuscescentes. *Germen* inferum, orbiculatum, magnum, convexum, supra laeve. *Styli* quinque, approximati, breves. *Stigmata* recurva. *Linn. Supp. Pl.* 258.
OBS. This and the two following species I have not yet seen, but accept and admit them in the present arrangement of the Genus (that it may be as little defective as possible) on the authority of *Sp. Pl.* and *Ait. Hort. Kew.*

M. foliis filiformibus semiteretibus distinctis, papulis ovatis, floribus lateralibus sessilibus; terminalibus pari foliorum cinctis. *caducum.* 91.
M. caducum Haworth's Mesemb. no. 13. *p.* 125.—*Willd. Sp. Pl.* 2. 1037.
HABITAT Cap. Bon. Sp. ⊙.
FLORET Jul. Aug.

M. foliis semiteretibus papulosis distinctis, floribus sessilibus axillaribus, calycibus quinquefidis. *copticum.* 92.
M. copticum Haworth's Mesemb. no. 10. *p.* 120.—*Willd. Sp. Pl.* 2. 1037.
HABITAT Cap. Bon. Sp. ⊙.
FLORET ....
DESCRIPTIO. *Statura* et magnitudo M. nodiflori. Caulis trichotomus herbaceus. *Folia* opposita semiteretia papulosa, ramulos terminantia, nulla in internodiis, longitudine internodiorum. *Flores* sessiles solitarii in divaricatura ramorum. *Calyx* quinquefidus, corolla longior. *Capsula* turbinata retusa quinquangularis, angulis ciliatis compressis. *Semina* subrotunda subcochleata striata. *Linn. Sp. Pl.* 688.—Corolla alba. *Willd.* l. c.

M. foliis radicalibus gramineis, scapo filiformi, laciniis calycinis quinque lanceolatis petalis longioribus, radice annua. *gramineum.* 93.
M. gramineum Haworth's Mesemb. no. 9. 471. *App.*—*M. lineare. Acaule foliis linearibus Thunb. Prod.* 88.—*Cape Fig Marygold, with grass leaves, by which and its five green-leaved starry*

starry flower-cup, it is distinguished from others. Pet. Gaz. t. 88. 7. *Cat.* 487.

HABITAT Cap. Bon. Sp. ⨀.

FLORET ....

clavatum. M. foliis clavatis obtusis, floribus terminalibus, radice annua.

94. *M. clavatum Haworth's Mesemb. no.* 10. *p.* 471. *App.—Club-leaved Cape Fig Marygold. Pet. Gaz. t.* 88. 7. *Cat.* 487.

HABITAT Cap. Bon. Sp. ⨀.

FLORET ....

OBS. This and the preceding species I have never seen. I take them both on the authority of the above cited figures in *Petiver's Gaz.* They are unquestionably distinct from all my others, and doubtless possessed of annual roots. Such small *Mesembryanths* would not flower terminally, if their roots were perennial.

OBS. 2. It is here necessary to remark, that the present species is not the *clavatum* of *Jacquin* and *Willdenow*, which last (the name being preoccupied) I have named *defoliatum*, as is seen in my section *Vesperiflora*.

†† SPINULIFERA. *Costis foliorum exsiccatorum basi persistentibus et spinulescentibus, ramulis, foliis, pedunculisque papuloso-crystallinis.*

viridiflorum. M. foliis semiteretibus papuloso-pilosis, calycibus hirsutis, petalis viridibus, caudice incrassato, ramis diffusis.

95. *M. viridiflorum Haworth's Mesemb. no.* 53. *p.* 199. *et p.* 443.—*Curtis's Magaz. tab.* 326.—*Willd. Sp. Pl.* 2. 1042.

HABITAT Cap. Bon. Sp. ♄.

FLORET Jul.—Nov. A. M.

DESCRIPTIO. *Corolla* absolute viridis, in qua ab omnibus notabile differt.

grossum. M. foliis linearibus papulosis obtusis teretiusculis utrinque attenuatis canaliculatis, caudice incrassato, ramis diffusis.

96. *M. grossum Haworth's Mesemb.* 76. *p.* 225. *et M. carneum* 55. *p.* 206. *et M. aggregatum App.* 10. *p.* 419.—*M. grossum Willd. Sp. Pl.* 2. 1043.

HABITAT Cap. Bon. Sp. ♄.

FLORET Mai.—Sept. A. M.

DESCRIPTIO. *Corolla* mediocris petalis multiserialibus primo pallide-carneis, demum stramineo-carneis.

OBS.

OBS. This species is difficult to increase from cuttings, unless assisted by artificial heat.

M. foliis confertis semiteretibus papulosis canaliculatis, caudice ramisque erectis incrassatis. *spinuliferum.* 97.

M. spinuliferum Haworth's Mesemb. no. 54. *p.* 206. *et App. p.* 443.

HABITAT Cap. Bon. Sp. ♄.

FLORET Jun.—Oct. A. M.

DESCRIPTIO. *Suffrutex* caudice ramoso valde incrassato erecto spithameo et ultra, cortice cinereo, longitudinaliter varie fisso. *Rami* decussati breves teretes suberecti incrassati papulosi. *Folia* opposita 1—2-pollicaria semiteretia subulata, juniora canaliculata grossa viridia valde papulosa. *Pedunculi* terminales umbellato-distichi vel rarius subdichotomi longitudine varii, teretes papulosi. *Calyx* itidem papulosus 5-fidus laciniis inæqualibus. *Corolla* pollicaris petalis stramineis linearibus basi attenuatis apice retusis emarginatis, interioribus sensim minoribus seu setaceis. *Filamenta* inæqualia exteriora longiora patentia lutea. *Antheræ* luteæ.

OBS. In hac et duabus præcedentibus speciebus, et itidem paulo in sequentibus duabus, costæ seu nervi principes foliorum exsiccatorum sæpe persistunt, et ad basin in spinulos permanentes demum transformantur.

M. foliis semiteretibus pulcherrime-papulosis, pedunculis dichotomis calycibusque crystallinis, ramis gracilibus diffusis. *nitidum.* 98.

M. nitidum Haworth's Mesemb. App. no. 5. *p.* 412.—*M. pruinosum Thunb. Prod.* 90.

HABITAT Cap. Bon. Sp. ♄.

FLORET Jul.—Oct. A. M.

DESCRIPTIO. *Rami* senecti tenues diffusi decumbentes basi attenuati geniculis incrassatis, juniores succulenti crassi splendidissime papulosi. *Flores* dichotomi terminales præcedente minores lutei. *Pedunculi* alterni breves teretes cum calycibus quinquefidis nitidissime papulosi seu crystallini. *Laciniæ calycinæ* inæquales, 2 majores basi quasi crystallino-ciliatæ, 3 minores subtranslucentes marginibus plus minusve membranaceis. *Petala* multiserialia, exteriora linearia, interiora setacea. *Filamenta* exteriora patentia, interiora breviora erecta basi virescentia, supra aurantia. *Antheræ* exteriores luteæ, interiores aurantiæ.

M. foliis linearibus semiteretibus canaliculatis papulosis, caulibus prostratis filiformibus. *canaliculatum.* 99.

M. canaliculatum Haworth's *Mesemb. no.* 60. *p.* 218.
HABITAT Cap. Bon. Sp. ♄.
FLORET Jul.—Oct. A. M.
DESCRIPTIO. *Corolla* parva petalis dilute rubicundis. *Capsula* pellucida. *Folia* apicibus saepe recurvantibus, praecipue in junioribus plantis.

††† (*a*) VARIA. *Caulibus suffrutescentibus absque characteribus praecedentum, foliis saepe impunctatis.*

villosum. 100. M. foliis linearibus semiteretibus canaliculatis pubescentibus, caulibus pilosis prostratis.
M. villosum Haworth's *Mesemb. no.* 61. *p.* 222. *et* 441.—*Willd. Sp. Pl.* 2. 1042.—*Linn. Hort. Clif.* 216. 6.
HABITAT Cap. Bon. Sp. ♄.
FLORET Jul. A. M.
DESCRIPTIO. Caulis per aetatem, basi valde incrassatus, ramulis numerosis prostratis filiformibus pilosis. *Pedunculi* subdichotomi primo terminales dein axillares teretes, pilis rariusculis adpressis antice spectantibus. *Calyx* 5-fidus laciniis subaequalibus ovato acuminatis extus pilosis viridibus, intus glabris purpurascentibus, petalis incrassatis simillimis, et quasi calyx et corolla in uno junctis. *Corolla* nulla. *Capsula* 5—6-locularis carnosa hemisphaerica. *Semina* pauca parva ovata.
OBS. M. *villosum* a charactere generico *Mesembryanthemorum* valde discrepat: forte est sui generis planta; vel potius generis *Tetragoniae* propria species.

brachiatum. 101. M. caulibus foliisque cylindricis papulosis, ramis trichotomis.
M. brachiatum Haworth's *Mesemb. no.* 74. *p.* 254.—*Willd. Sp. Pl.* 2. 1044.—*M. decussatum* Thunb. *Prod.* 88.
HABITAT Cap. Bon. Sp. ♄.
FLORET Jul. Aug.
DESCRIPTIO. *Frutex* per aetatem tripedalis ramulis numerosissimis trichotomis. In hortis nostris, nunc non invenitur.

(*a*) The present division contains very dissimilar species, which would probably be better subdivided: this however I have not ventured to do, because several of its component individuals are at present unknown to me, except from the descriptions of *Aiton* and *Thunberg*, on which authorities I have taken them, and properly acknowledged it.

M. foliis

M. foliis semiteretibus papulosis internodio brevioribus, floribus sessilibus axillaribus, calycibus quadrifidis, ramis divaricatis. *geniculiflorum.* 102.

M. geniculiflorum Haworth's Mesemb. no. 59. p. 214.—Willd. Sp. Pl. 2. 1037.—Linn. Hort. Clif. 218. 22.—Plantes Grasses, page 17. cum icone.—Ficoides Capense folio tereti fl. albido Pet. Gaz. t. 78. f. 3.—Ficoides seu Ficus aizoides africana, &c. Boer. Ind. Alt. 1. 191. no. 4.

HABITAT Cap. Bon. Sp. ♄.

FLORET Jun.—Sept. A. M. ?

DESCRIPTIO. Petala straminea. *Rami* articulati, valde dichotomi, divaricati.

M. foliis subulatis semiteretibus acutis remotis, floribus terminalibus dichotomis, laciniis calycinis 4 valde inæqualibus. *junceum.* 103. *

HABITAT Cap. Bon. Sp. ♄.

FLORET Aug.—Oct. A. M.

DESCRIPTIO. *Suffrutex* ramosissimus. *Radix* fibrosus. *Rami* erecti oppositi vel rarius alterni teretes filiformes articulati et glaucescentes, uti folia pedunculi calycesque. *Folia* linearia semiteretia acuminata internodiis sæpe breviora, juniora sæpe subcanaliculata. *Flores* in paniculo dichotomo terminales aggregati. *Pedunculi* teretes breves sæpius oppositi unâ alterâve bracteâ foliiformi versus basin instructi. *Calyx* quadrifidus seu quasi diphyllus, laciniis exterioribus foliiformibus quadruplo majoribus quam interioribus, quæ basi membranatæ sunt, apicibus acuminatis. *Corolla* parva petalis linearibus rubicundis basi albicantibus. *Filamenta* alba, *Antheræ* luteæ. *Styli* 4 erecti subulati filamentis paulo longiores. *Germen* parvum rotundato-ficiforme 4-loculare.

M. foliis oppositis connatis semiteretibus, stipulis membranaceis reflexis laceris ciliiformibus. *ciliatum.* 104.

M. ciliatum Haworth's Mesemb. no. 119. p. 36. (observationibus exclusis quæ ad M. microphyllum pertinent).—Willd. Sp. Pl. 2. 1037.

HABITAT Cap. Bon. Sp. ♄.

FLORET....

OBS. I never saw this species, but admit it on the authority of *Ait. Hort. Kew.* 2. 179. It no longer exists in Britain.

M. foliis connatis teretibus papulosis, caule erecto, ramulis unifloris filiformibus glabris. *capillare.* 105.

M. capillare Haworth's Mesemb. no. 3. 469.—Willd. Sp. Pl. 2. 1049.

HABITAT Cap. Bon. Sp. ♄.

FLORET

Floret ....

Obs. This species likewise has hitherto escaped me: it is assuredly a shrub; and probably very closely allied to my *fastigiatum*.

fastigiatum. 106. M. foliis flexuoso-reflexis subulatis semiteretibus glaucis, calycinis laciniis æqualibus, tribus utrinque membranatis, caulibus gracilibus subdecumbentibus.

M. fastigiatum Haworth's Mesemb. no. 57. *p.* 210.—*Ficoides Capensis frutescens foliis teretibus, confertis glaucis, flore albo. Brad. Succ.* 1. *t.* 5. *p.* 7.

Habitat Cap. Bon. Sp. ♄.

Floret Jul.—Sept. A. M.

Descriptio. *Frutex* pedalis et ultra ramosus, radice fibrosa. *Rami* oppositi teretes, cortice fusco-cinereo; valde graciles, et fere filiformes, superne incrassati duri; primo erecti, demum decumbentes, pro ratione oneris foliorum. *Folia* distincta subglauca vel subinde glauca, plus minusve flexuosa, horizontalia, et sæpe reflexa; semiteretia, subulata et sæpe canaliculata. *Flores* solitarii vel subinde dichotome-ternati terminales. *Pedunculi* subnudi vel ramuliferi unciales teretes superne incrassati, et cum calyce paulo papulosi. *Calyx* inæqualiter 5-fidus, laciniis 2 exterioribus majoribus ovatis lateribus basi membrana marginatis, tribus interioribus paulo minoribus, utrinque membrana subexusta munitis, apicibus cornutis obtusis. *Corolla* fere sesquiuncialis petalis valde numerosis et angustis multiserialibus, exterioribus extus sordide luteis, seu fulvis, intus pallidioribus, interioribus sensim minoribus setaceis, pallidioribus. *Filamenta* inæqualia alba brevia. *Antheræ* aurantiæ. *Styli* 5 filamentis breviores erecti demum patentes subulati obtusi viridi-lutescentes. *Germen* a calyce libero nec connato. *Capsula* obsolete 5-angulata 5-locularis.

reflexum. 107. M. foliis flexuoso-reflexis obtusis semiteretibus glaucis, calycinis laciniis valde inæqualibus, caule senecto erecto basi incrassato.

M. reflexum Haworth's Mesemb. no. 58. *p.* 213.

Habitat Cap. Bon. Sp. ♄.

Floret Aug.—Sept. A. M.

Descriptio. Præcedenti valde affinis et simillima, tamen distincta videtur. *Caulis* ætate basi incrassatus erectus perdurus. *Rami* et ramuli crassiores et viridiores et magis erecti quam in præcedente. *Folia* sæpe minus subulata, et magis canaliculata et obtusa. *Flores* mediocres terminales dichotomi,

tomi, vel subinde solitarii. *Pedunculi* ut in præcedente. *Calyx* 5-fidus laciniis valde inæqualibus, 2 exterioribus plus duplo majoribus foliiformibus, tertia uno latere valde membranata, (quæ in hoc genere valde singularis est); laciniis 4 et 5 utraque late membranatis, apicibus cornutis brevibus grossis, membranis exsucto-hyalinis. *Corolla* præcedentis at multo pallidior seu albicans; cæteris ut in illa.

* β, Floribus purpurascentibus.

M. foliis flexuoso-recurvis perviridibus semiteretibus, laciniis calycinis 5 digitiformibus, caulibus subflexuosis gracilibus lucidis. *flexuosum.* 108. *

HABITAT Cap. Bon. Sp. ♄.

FLORET Jul.—Aug. A. M.

DESCRIPTIO. Præcedentibus major et viridior. Suffrutex pedalis ad bipedalem. *Rami* oppositi, primo erecti, dein debiliter-decumbentes teretes graciles lucidi, oculo glabri, sed tactui vix glabri; cinerei, juniores crassiores, ut in *fastigiato*. *Flores* terminales solitarii, *pedunculis* teretibus subnudis papuloso-lucidis, superne incrassatis. *Calyx* 5-partitus, laciniis magnis, duabus majoribus digitiformibus ut in *sequente*. *Corolla* præcedentibus major, *petalis* multiserialibus latioribus obtusis emarginatis lutescentibus, tinctura extus rubedinis; petalis interioribus sensim minoribus pallide luteis, et fere setaceis, *Filamenta* alba brevia, *Antheris* luteis. *Styli* 4 (nec 5) breves strictissimi *filamentis* longiores subulati viridi-lutescentes. *Germen* ad latera calycis junctum, nec distans ut in præcedentibus. *Capsula* 4-locularis.

OBS. Mr. Aiton of Kew favoured me with this species.

M. foliis semiteretibus confertis apice flexuoso-recurvis, calycinis laciniis 5—6 grossis digitiformibus, caulibus rectis. *splendens.* 109.

α. Calycinis laciniis sæpe 6 pergrossis digitiformibus subæqualibus, foliis obtusis horizontalibus.

M. splendens Haworth's Mesemb. no. 56. *p.* 209.—*Willd. Sp. Pl.* 2. 1042.—*Linn. Hort. Clif.* 220. 25. *et iterum* 220. 31. *differentiis specificis aliis.*—*M. foliis confertis splendentibus flore pallido Dill. Elth. t.* 204. *f.* 260.

DESCRIPTIO. *Flores* solitarii terminales mediocres, *pedunculis* brevibus subteretibus valde incrassatis et bracteatis instructi. *Bracteæ* 2 omnino foliiformes subinde alternæ. *Calyx* magnus percrassus sæpe 6 fidus, laciniis magnis subæqualibus et foliiformibus, 3 seu 4 angustioribus membranis purpurascentibus alte instructis. *Petala* inæqualia interiora sensim minora,

nora, exteriora sæpe emarginata, primo extus lutescentia, dein albida, A. M. et P. M. expansa. *Filamenta* et *Antheræ* albæ. *Styli* breves crassi erecti, dein aliquo incurvati, subulati albido-lutescentes. *Germen* calyce adnatum. *Capsula* 7—8-locularis, 7—8-angulata.

* β. Paulo minor calycinis laciniis semper 5-fidis gracilioribus subæqualibus, petalis extus ad apicem subfulvis, intus albidis, foliis patentibus (nec horizontalibus) acutioribus quam in α: stylis 6: capsulis 6-locularibus et 6-angulatis.

Ficoides Capensis frutescens foliis teretibus confertis glaucis flore albo Brad. Succ. t. 6. D. 1. p. 7.

HABITAT Cap. Bon. Sp. ♄.

FLORET Jul. Aug. A. M. et β. etiam P. M. et vespere.

OBS. Var. β. and also the var. β. of my *M. barbatum*, and likewise *M. incurvum*, *M. heteropetalum*, and *M. vaginatum*, I received from my friend Mr. John Howard of Kingsland, a very acute and accurate observer and cultivator of Mesembryanthema. When *splendens* β. first expanded a flower with me, I was surprised to find it did not close in the afternoon or evening, but continued open like the night-flowering species. I have also observed something similar in *old* flowers of α. but in a less degree. Of β. I have seen but one open flower.

corallinum. 110. * M. foliis teretibus glabris, caule stricto ramosissimo, floribus albis.

M. corallinum Thunb. Prod. 89.

HABITAT Cap. Bon. Sp. ♄.

OBS. This and the three following species I never saw, but admit them in this arrangement, on the authority of Thunberg. Is this allied to *læve* of Aiton?

fasciculatum. 111. * M. foliis teretibus glabris floribus terminalibus solitariis albis, caule articulato radicante.

M. fasciculatum Thunb. Prod. 89.

HABITAT Cap. Bon. Sp. ♄.

OBS. Is this allied to *purpureo-croceum*?

subglobosum. 112. * M. foliis subglobosis, caule rigido ramoso, ramulis filiformibus, floribus pedunculatis rubris.

M. capillare Thunb. Prod. 89. *nec aliorum, quare nomen subglobosum imposui.*

HABITAT Cap. Bon. Sp. ♄.

An affinis M. echinato? an potius affinior M. cymbiformi?

M. foliis

M. foliis trigono-globosis glabris, caule erecto tereti ramoso, floribus sessilibus rubris. *sessile.* 113.
Thunb. Prod. 89.
HABITAT Cap. Bon. Sp. ♄.
An affinis *moniliformi?*

******* VESPERIFLORA. *Caulibus suffrutescentibus gracilibus duris, et in hoc genere valde defoliatis, foliis teretiusculis impunctatis, calycibus quadrifidis, corollis odoratis intus albis, radicibus ætate carnoso-incrassatis, fibris perpaucis.*

M. foliis remotis obsolete semicylindricis distinctis glaucis, petalis intus albis extus phœniceis vel luteis, cortice albo. *noctiflorum.* 114.
M. noctiflorum Haworth's Mesemb. no. 72. *p.* 251.—*Willd. Sp. Pl.* 2. 1098.—*Plantes Grasses, page* 10. *cum icone.*—*Linn. Hort. Clif.* 220. 28.—*M. noctiflorum fl. intus albo extus phœniceo odoratissimo Dill. Elth. t.* 206. *f.* 262.
HABITAT Cap. Bon. Sp. ♄.
FLORET Jun.—Aug. vespere.
α. Floribus extus roseis intus albis.
DESCRIPTIO. Suffrutex. *Radix* fibris paucissimis instructa, non tuberosa, sed ætate carnoso-incrassata et elongata. *Caulis* ramosus lignosus debilis. *Rami* pauci tenues teretes fragiles diffuso-decumbentes elongati, cortice glaberrimo albo vestiti. *Folia* opposita remota subsemiteretia subulata glauca valde obtusa. *Pedunculi* umbellato-dichotomi filiformes teretes lignosi, prope calycem incrassati, post medium sæpe bracteati. *Bracteæ* duæ foliiformes. *Calyx* magnus obconicus, quadrifidus laciniis inæqualibus. *Corolla* mediocris vespere et noctu aperta, odore moschato gratissimo. *Petala* exteriora roseo-rubicunda linearia emarginata, interiora setacea alba seu argentea. *Filamenta* inæqualia alba. *Antheræ* pallidæ luteæ seu stramineæ. *Germen* ficiforme.
* β. Floribus extus luteis.
OBS. Magnitudo, statura et omnia ut in α; exceptis petalis luteis. Varietas rarissima.

M. foliis remotis subcylindricis distinctis glaucescentibus, corollis intus albis extus stramineis vel fulvis, cortice cinereo. *stramineum.* 115.
M. stramineum Haworth's Mesemb. no. 73. *p.* 252.—*Linn. Hort. Clif.* 220. 28. *α.*—*M. noctiflorum flore intus candido extus stramineo Dill. Elth. t.* 206. *f.* 263.

HABITAT

HABITAT Cap. Bon. Sp. ♄.
FLORET Jun.—Aug. vespere.
α. Corollis extus stramineis intus albis, vespere et noctu expansis cum præcedente, cortice cinereo-albo.
DESCRIPTIO. Præcedenti simillima et nimis affinis, sed major, altior, minus florens; cortex (præcipue in ramis junioribus) cinereus nec albus. *Folia* majora longiora minus obtusa. *Laciniæ calycinæ* minus inæquales. *Petala* exteriora straminea, nunquam rosea. *Styli* 4 longi subulati. *Germen* obovato-acuminatum subangulatum quadriloculare.
* β. Corollis extus fulvis intus albis, cortice cinereo-fusca: cæteris ut in α.
OBS. Hæc species vulgo dicta est *Zil* apud Hottentottos.—*Radices* senectæ incrassatæ sunt et fere fusiformes.

defoliatum. 116. M. foliis subteretibus impunctatis distinctis, pedunculis terminalibus aggregatis clavatis, calycibus quadrifidis.
M. clavatum foliis subteretibus impunctatis distinctis, pedunculis clavatis, calycibus quadrifidis. Jacq. Hort. Schœnbr. 1. *p.* 56. *t.* 108.—*Willd. Sp. Pl.* 2. 1038.
HABITAT Cap. Bon. Sp. ♄.
FLORET ....
OBS. *Pedunculi* crassi clavati in ramorum apice 3—5, aggregati. *Calyx* subæqualis quadrifidus. *Corolla* alba, petalis linearibus tenuissimis. *Styli* quatuor. *Willd.* l. c.
OBS. I have not yet seen this species, but, from the figure above cited, believe it to be distinct from *noctiflorum* and *stramineum*, although very closely allied to both.
OBS. 2. As the specific name of *clavatum*, which Jacquin gives to this species, was pre-occupied, at the time he applied it, by a club-leaved species, enumerated in my *Observations* on this Genus, I have found it necessary to change the name to that of *defoliatum*, which happily enough expresses the naked appearance of its stem and branches.

******** RUBICUNDA. *Ramis suffrutescentibus glabris, foliis (divisio prima excepta) compresso-triquetris nudis, apicibus rectis: petalis (M. edule, M. heteropetalo, et M. dilatato exceptis) rubicundis.*

† TERETIUSCULA. *Caulibus plerumque erectis, foliis tereti-triquetris.*

læve. 117. M. foliis confertis cylindraceis obtusis arcuatis perglaucis, calycibus quinquefidis laciniis oblongis obtusis.

M. læve Haworth's Mesemb. no. 75. *p.* 254. *et App. no.* 14. *p.* 421.—*Willd. Sp. Pl.* 2. 1044.
HABITAT Cap. Bon. Sp.
FLORET Jul.—Sept. ♄.
OBS. This rare species acquires an erect shrubby stem, two or more feet high, thickly covered with shoots and leaves: it is very liable to rot in the winter, and has never yet produced its flowers with me: they are said to be purple by *Willdenow*.

M. foliis subconfertis subulatis tereti-triquetris subincurvatis glaucis. *Haworthii.* 118.
M. Haworthii Donn's Hort. Cantab. ed. 2. *p.* 66. *
HABITAT Cap. Bon. Sp. ♄.
FLORET Mai. et Oct. A. M.
DESCRIPTIO. *Frutex* dumosus. *Radix* fibrosa. *Caulis* lignosus erectus valde ramosus bipedalis et ultra. *Rami* subconferti oppositi teretes erectiusculi lignosi, juniores lævigati viridi-fuscescentes, seniores vaginis rubro-fuscis foliorum antiquorum vestiti. *Folia* distincta amplexicaulia ut in plurimis, subconferta vel subinde subremota, adscendentia sesquipollicaria cylindricò-triquetra, vel sæpe cylindrica, subulata acuta subarcuata carnosa glauca, seniora sæpe rectiuscula apicibus subrecurvantibus. *Pedunculi* pauci, primo terminales, dein axillares solitarii, vel sæpe ternati longi, primo teretes, et tunc basi subancipites, postea iterum teretes, superne incrassati, versus medium bracteis duabus foliiformibus instructi. *Calyx* obeonicus magnus carnosus, laciniis 5 inæqualibus; 2 exterioribus majoribus semuncialibus, basi planis, apicibus subulatis foliiformibus; tertia lacinia minor, præcedentibus simillima, basi uno latere membrana parva hyalina instructa; laciniæ 4 et 5 multo minores utrinque late membranaceæ, apicibus cornutis carnosis. *Corolla* polypetala inodora speciosa (tripollicaris et ultra) in stella speciosa A. M. horizontaliter expansa, nisi pluvia moneat citius claudi. *Petala* numerosa sed magis distantia quam in plurimis, inæqualia linearia utrinque attenuata obtusa, subinde emarginata lætissime sed pallide rubicunda, basi alba. *Filamenta* inæqualia albo-purpurascentia, primo incurvata, dein erectiuscula. *Antheræ* albo-flavescentes. *Styli* 5 brevissimi robusti obtusiusculi viridi-lutescentes. *Capsula* pyriformis 5-locularis apice umbilicata, costis 5 latis dorso sulcatis. *Semina* omnino abortiva.

M. foliis subconfertis tereti-triquetris subulatis incurvis glaucis basi marginatis. *stipulaceum.* 119.

M. stipulaceum Haworth's Mesemb. no. 77. *p.* 255.—*Linn. Hort. Clif.* 220. 29.—*M. frutescens flore purpureo rariore Dill. Elth. t.* 209. *f.* 267. 268.
HABITAT Cap. Bon. Sp. ♄.
FLORET rarius, Ma. Jun. Oct. A. M.
DESCRIPTIO. *Pedunculi* sæpe solitarii vel subinde ternati, primo terminales dein axillares tripollicares teretiusculi, circa medium bracteis 2, rarius 4, foliiformibus instructi. *Calyx* 5-fidus laciniis inæqualibus ut in plurimis. *Corolla* speciosa bipollicaris. *Petala* linearia angusta inæqualia sæpe emarginata, interiora setacea, supra læte rubicunda infra pallidiora. *Filamenta* erecto-patentia inæqualia pallide purpurascentia. *Antheræ* parvæ luteæ.

spinosum. 120. M. foliis triquetro-teretibus punctatis distinctis, spinis ramosis terminalibus.
M. spinosum Haworth's Mesemb. no. 108. *p.* 338.—*Willd. Sp. Pl.* 2. 1047.—*Linn. Hort. Clif.* 216. 3.—*M. frutescens ramis triacanthis Dill. Elth. t.* 208. *f.* 265.—*Ficoides africana, aculeis longissimis et foliolis nascentibus e foliorum alis, Brad. Succ.* 41. *t.* 39.—*Raj. Hist. Pl.* 3. 366. 15.
HABITAT Cap. Bon. Sp. ♄.
FLORET Jun. Sept. A. M.
DESCRIPTIO. *Pedunculi* solitarii vel ternati, terminales bracteati. *Corolla* parva rubicunda.

†† COMPRESSA. *Foliis glabris acute triquetris valde compressis, floribus sæpe ternatis.*

maximum. 121. M. foliis confertis percompresso-triquetris incurvato-lunulatis perglaucis, caule lignoso erecto.
M. maximum Haworth's Mesemb. no. 132. *p.* 402.
HABITAT Cap. Bon. Sp. ♄.
FLORET Mar. A. M. rarissime.
DESCRIPTIO. *Flores* (forte imperfecti, pro ratione frigoris in mense florendi) semel tantum vidi, terminales ternati parvi. *Pedunculi* angulati bracteis duabus magnis foliiformibus instructi. *Calyx* 5-fidus laciniis inæqualibus, 2 exterioribus majoribus ut in plurimis. *Corolla* rubicunda petalis linearibus numerosis. *Germen* 5-angulatum.

lacerum. 122. M. foliis confertis glaucis compresso-triquetris acinaciformibus, angulo carinali cartilagineo-laceris, petalis calyce magno longioribus.

M. lacerum

M. lacerum Haworth's Mesemb. no. 125. *p.* 383.
Habitat Cap. Bon. Sp. ♄.
Floret Jun. A. M.
Descriptio. *Frutex* bipedalis et ultra, radice fibrosa. *Caulis* lignosus erectus ramosus. *Rami* oppositi, juniores ancipites suberecti. *Folia* juniora recta, seniora incurva compresso-triquetra acinaciformia, angulis cartilagineis, carina lacera. *Pedunculi* terminales demum axillares, solitarii vel ternati ancipites, superne incrassati, supra medium bracteis duabus foliiformibus concavis carinæ lacera instructi. *Calyx* maximus valde carnosus subanceps 5-fidus laciniis carinatis inæqualibus ut in plurimis, carinis plus minusve laceris. *Corolla* magna speciosa polypetala et quasi plena, vespere non claudens sed semper aperta; petalis numerosissimis in serie multiplici, linearibus pulcherrime et læte roseis, interioribus setaceis. *Filamenta* numerosissima brevissima, interiora valde incurvata subcrocea. *Antheræ* luteæ. *Styli* 6—10 brevissimi, et fere tuberculiformes, farina copiosa obtecti. *Germen* magnum percrassum pyriforme. *Capsula* 6—10-locularis, supra umbilicata et stella notata radiis 6—10 geminatis. *Semina* pauca subreniformia.

M. foliis confertis glaucis falcato-acinaciformibus, angulis cartilagineis, carina lacera, petalis inæqualibus calyce magno brevioribus. *heteropetalum.* 123. *
Habitat Cap. Bon. Sp. ♄.
Floret Mai.—Aug. A. M.
Obs. Præcedenti simillima at multo minor minusque erecta, foliis minoribus magisque incurvis, petalis albis multoties brevioribus.
Descriptio. *Suffrutex* semipedalis, radice fibrosa. *Caulis* lignosus ramosissimus. *Rami* conferti adscendentes oppositi. *Folia* compresso-triquetra falcata glauca marginibus cartilagineis, angulo carinali serrulato-lacera; folia superiora sensim minora. *Flores* solitarii terminales. *Pedunculi* et bracteæ ut in *M. lacero*, at minores. *Calyx* magnus ut in *lacero* at magis depressus, laciniis minoribus subintegris, nec angulis laceris. *Corolla* parva misera petalis albis, subinde emarginatis calyce brevioribus, et magis inæqualibus quam in aliis hujus immensi generis; nec roseis calyce longioribus ut in præcedente. *Filamenta* alba brevissima. *Antheræ* flavicantes. *Styli* brevissimi virides vix longitudine antherarum. *Capsula* valde depressa et fere hemisphærica, semper 5-locularis. *Semina* numerosa majuscula subovato-compressa.
Obs. This new species I first received from my friend Mr.

Aiton

Aiton of Kew: and afterwards Cape seedlings of it from my friend Mr. Howard of Kingsland.

serratum. 124. M. foliis subulatis triquetris punctatis distinctis, angulo carinali retrorsum serrato, petalis luteis.

M. serratum Haworth's Mesemb. 381. 124.—*Willd. Sp. Pl.* 2. 1049.—*Linn. Hort. Clif.* 218. 15.—*M. serratum flore acetabuliformi flore luteo Dill. Elth. t.* 192. *f.* 238.

HABITAT Cap. Bon. Sp. ♄.

FLORET Jun.—Jul. *Dill.* l. c.

OBS. I have not yet seen this species.

dilatatum. 125. * M. foliis glaucis compresso-triquetris flexuoso-recurvantibus, angulo carinali post medium sæpe dilatato.

HABITAT Cap. Bon. Sp. ♄.

FLORET Jul. A. M.

DESCRIPTIO. *Frutex* radice fibrosa. *Caulis* erectus lignosus ramosus tripedalis et ultra. *Rami* oppositi lignosi duri cortice rufescente. *Folia* subconferta distincta opposita glauca compresso-triquetra, carina versus apicem obtusiusculum, sæpe gibbosa, juniora sæpe incurvata, seniora subflexuosa, seu ante medium incurvantia, et post medium recurvantia. *Flores* terminales ternati. *Pedunculi* filiformes semunciales, supra medium bibracteati, et prope calycem paulo incrassati. *Bracteæ* foliiformes parvæ lateribus aliquo membranaceis. *Calyx* quinquefidus laciniis æqualibus ovato-acuminatis. *Corolla* parva, petalis unica serie lineari-lanceolatis subobtusis integris trilinearibus argenteo-albis et lucidis. *Filamenta* brevia vix longitudine petalorum, convergentia alba. *Antheræ* luteæ. *Styli* 5 brevissimi viridi-lutescentes.

trichotomum. 126. * M. foliis trigonis, caule stricto ramoso angulato, floribus sessilibus rubris.

M. trichotomum Thunb. Prod. p. 89.

HABITAT Cap. Bon. Sp. ♄.

OBS. The sessile flowers, which are red, separate this from every species I am acquainted with. I never saw it, but insert it on the authority above cited.

spectabile. 127. M. foliis confertis triquetris elongatis glaucis subarcuatis, caule lignoso adscendente.

M. spectabile Haworth's Mesemb. no. 126. *p.* 385.—*Curtis Magaz.* 396.—*Willd. Sp. Pl.* 2. 1048.

HABITAT Cap. Bon. Sp. ♄.

FLORET Mai.—Oct. A. M.

DESCRIPTIO.

DESCRIPTIO. *Folia* conferta glauca triquetra 2—5-pollicaria integerrima; vel secundum Curtisium nonnunquam unidentata: sed nunquam vidi exemplarium ullum denticulatum, Curtisiano individuo excepto, quod sine dubio omnino casuale erat. *Pedunculi* sæpe binati subaxillares 2—4-pollicares glabri, infra medium bracteis duabus vel quatuor foliiformibus instructi, inferne angulati, superne teretes. *Calyx* subangulatus magnus 5-fidus, laciniis inæqualibus ut in plurimis. *Corolla* magna spectabilis bipollicaris et ultra inodora, petalis numerosissimis profunde et hilariter rubicundis. *Filamenta* exteriora patentia, interiora convergentia subpurpurascentia, basi subpubescentia. *Antheræ* flavescentes parvæ. *Styli* 5 lati ramentacei, demum in stella patentes. *Capsula* turbinata 5-locularis.

OBS. This showy species is not closely allied to any in the whole Genus.

††† FALCATA. *Foliis subglabris obtuse triquetris incurvis punctatis compressis, floribus paniculatis.*

M. foliis triquetris compressis incurvis perglaucis, basi valde attenuatis, ramulis teretibus decumbentibus robustulis. *decumbens.* 128.
M. decumbens Haworth's Mesemb. no. 116. p. 352.
HABITAT Cap. Bon. Sp. ♄.
FLORET copiose Mai.—Oct. A. M.
DESCRIPTIO. *Corolla* magna bipollicaris pulchra dilutissime rubicunda, seu fere albicans: sine dubio pallidissima omnium rubicundorum.

M. foliis triquetris compressis glaucis utraque attenuatis acinaciformibus, ramulis teretibus gracilibus effusis. *incurvum.* 129. *
HABITAT Cap. Bon. Sp. ♄.
FLORET non adhuc in Britannia.
DESCRIPTIO. *Suffrutex* pedalis ramosus, radice fibrosa. *Rami* oppositi et alterni remotiusculi patuli teretes graciles effuso-decumbentes, cortice rufescente. *Folia* in senectis opposita acinaciformia incurva perglauca punctata glabra patentia. *Flores* non vidi.

OBS. This species very much resembles the last, but is smaller: it is also very much like the next, but is larger in all its parts and more glaucous. It was communicated to me by my friend Mr. Howard of Kingsland, who raised it from Cape seeds in the year 1802. It has not yet flowered in Britain.

M. foliis

glomeratum. 130. M. foliis triquetris compressis glaucescentibus incurvis utraque attenuatis, ramulis filiformibus compressis erectis.
M. glomeratum Haworth's Mesemb. no. 117. *p.* 356.—*Willd. Sp. Pl.* 2. 1046.—*M. falcatum minus flore carneo minore Dill. Elth. t.* 213. *f.* 274.
HABITAT Cap. Bon. Sp. ♄.
FLORET Jun. Jul. copiosissime fere omnium. A. M.

†††† SCABRIDA. *Foliis punctato scabris obsolete triquetris subcompressis rectis.* (*a*)

emarginatum. 131. M. foliis glaucescentibus subtriquetris scabris, calycibus spinosis, petalis violaceis apice crenatis, staminibus patentibus.
M. emarginatum Haworth's Mesemb. no. 109. *p.* 340.—*Willd. Sp. Pl.* 2. 1049.—*Linn. Hort. Clif.* 219. 20.—*Linn. Hort. Ups.* 129. 8.—*M. purpureum scabrum staminibus expansis Dill. Elth. t.* 197. *f.* 250.—*Ficoides capensis, triangulari folio acuto flore purpureo Pet. Gaz. t.* 77. *f.* 3.
HABITAT Cap. Bon. Sp. ♄.
FLORET Jun.—Aug. copiose A. M.
DESCRIPTIO. *Corolla* lætissime violacea seu rubicunda pulcherrima mediocris, petalis apice 3—4-denticulatis. *Styli* longitudine filamentorum.

versicolor. 132. * M. foliis glaucescentibus subtriquetris perscabris, foliolis calycinis ovatis acuminatis, apice subbidentatis, staminibus collectis.
HABITAT Cap. Bon. Sp. ♄.
FLORET Mai.—Aug. A. M.
DESCRIPTIO. Simillima præcedenti sed paulo glaucior, foliola calycina latiora breviora minusque acuminata. *Petala* radiis solaribus expansa, præcipue meridiano, nitide-albida sive argentea; sed vespere læte rubicunda clausa et non violacea. *Stamina* filamentis inferne pubescentibus collectis, nec expansis ut in *emarginato*.
OBS. My friend Mr. Aiton of Kew first raised this species from Cape seeds, and obligingly favoured me with it. It has the habit of the last, but is more scabrous; and its calyx and corolla (except in colour) resemble the next: it is the only kind I ever knew regain the colour of its flowers after they had once changed: they are rubicund in the morning, silvery to the meridian sun, and rubicund again in the evening, and so on for more days than one.

(*a*) The name and characters of this division were casually omitted in the List of Sections given in page 19.

M. foliis

M. foliis subtriquetris viridibus scaberrimis, foliolis calycinis ovato-acuminatis, petalis pallidis apice crenatis, staminibus collectis. *scabrum.* 133.

M. scabrum Haworth's Mesemb. no. 111. *p.* 345.—*Willd. Sp. Pl.* 2. 1049.—*Linn. Hort. Clif.* 219. 20. β.—*M. purpureum scabrum staminibus collectis Dill. Elth. t.* 197. *f.* 251.

HABITAT Cap. Bon. Sp. ♄.

FLORET Jul. A. M. infrequens.

M. foliis subtriquetris glaucis scabriusculis, petalis pallidis basi purpureis imbricatis, staminibus collectis, cortice cinereo fuscoque. *deflexum.* 134.

M. deflexum Haworth's Mesemb. no. 112. *p.* 347.—*Willd. Sp. Pl.* 2. 1047.

HABITAT Cap. Bon. Sp. ♄.

FLORET Mai.—Oct. copiose A. M.

DESCRIPTIO. *Rami* fusci, vel cinerei albicantes. *Pedunculi* teretes inferne glabri, superne scabriusculi et valde incrassati. *Calyx* 5-fidus laciniis petalis duplo brevioribus. *Corolla* mediocris formosa, petalis primo pallidis, dein læte rubicundis, nitidis, sæpe emarginatis, basi semper purpureis, (unde annulus basi corollæ purpureus) et imbricatis, sole ardente cum calycis laciniis minime reflexis; petalis interioribus sensim minoribus subcapillaceis, primo albicantibus apicibus rubicundis; demum omnino rubicundis. *Filamenta* convergentia inferne villosa, primo albida, demum rubicunda. *Antheræ* flavæ. *Styli* 5 patentes subulati ramentacei lutescentes. *Capsula* pyriformis angulis validis 5.

M. foliis subtriquetris perglaucis scabris, laciniis calycinis, petalisque rubicundis distantibus, staminibus collectis, cortice dealbato. *retroflexum.* 135.

M. emarginatoides Haworth's Mesemb. no. 110. *p.* 343.

HABITAT Cap. Bon. Sp. ♄.

FLORET Mai.—Oct. copiose.

DESCRIPTIO. *Suffrutex* ramosus radice fibrosa. *Rami* decumbentes oppositi vel alterni numerosi tenues subteretes vel sæpe obsolete ancipites, parum flexuosi, et cortice albissimo sæpe vestiti. *Folia* opposita distincta conferta subtriquetra compressa acuta perglauca scabra valde tenuia, internodiis longiora. *Pedunculi* subterminales oppositi et ternati, medio bibracteati, inferne ancipites, superne teretes incrassati et scabri. *Bracteæ* foliiformes. *Calyx* 5-fidus, laciniis petalis plus duplo brevioribus inæqualibus ut in plurimis, membranis magis exustis quam in præcedente. *Corolla* præcedente fere duplo major, petalis angustioribus semper læte rubicundis

rubicundis et distantibus, nec basi imbricatis; sole ardente cum laciniis calycinis, valde retroflexis. Cætera ut in præcedente, sed *capsula* magis angulata, et *styli* duplo majores.

violaceum. 136. * M. foliis subtriquetris glaucis subscabris, petalis violaceis, cortice nigricante.

M. violaceum Plantes Grasses, page 84. *cum icone.—Ficoides, seu Ficus aizoides, africana, frutescens, folio glauco parvo, flore violaceo, Brad. Succ.* 4. 14. *t.* 36.

HABITAT Cap. Bon. Sp. ♄.

FLORET ....

OBS. Præcedenti nimis affinis et fere eadem, sed differt cortice nigricante, et pedunculis multo longioribus. Vel vivam vel siccam nunquam vidi, sed authoritatibus supra citatis inserui.

††††† BREVIFOLIA. *Foliis triquetris brevissimis vix triplo longioribus quam latioribus.*

falcatum. 137. M. foliis distinctis glaucis falcatis compresso-triquetris, ramulis numerosis filiformibus.

M. falcatum Haworth's Mesemb. no. 128. *p.* 360.—*Willd. Sp. Pl.* 2. 1046.—*Linn. Hort. Cliff.* 219. 19—*Ficoides afric. folio triangulari ensiformi brevissimo, flore purpurascente, Brad. Succ.* 5. 9. *t.* 42.

HABITAT Cap. Bon. Sp. ♄.

FLORET Mai.—Jul. A. M.

DESCRIPTIO. *Flores* fragrantes, ut in Cratægo Oxyacantha. *Germen* turbinatum. *Capsula* 5 locularis parva.

pulchellum. 138. * M. foliis connatis valde confertis glaucis acute triquetris cuspidatis, marginibus ciliato-pubescentibus, caulibus prostratis.

HABITAT Cap. Bon. Sp. ♄.

FLORET Apr. A. M. rarissime.

DESCRIPTIO. *Suffrutex* radice fibrosa. *Caules* plurimi prostrati valde ramosi angulati semipedales et ultra. *Ramuli* oppositi brevissimi numerosissimi. *Folia* connata conferta triquetra glauca subpunctata mucronata trilinearia et ultra, angulis præcipue carinali, ciliato-pubescentibus. *Flores* terminales solitarii pedunculati. *Pedunculi* inferne compressi superne teretes, ad medium bracteis duabus foliiformibus instructi, magis ciliatis quam folia. *Calyx* 5-fidus laciniis inæqualibus ut in plurimis, sed sole ardente reflexis. *Corolla* (bis tantum vidi) parva sed pulchella, petalis intus pallide rubicundis apicibus saturatioribus, extus itidem saturatioribus

 inæqualibus

inæqualibus et sæpe emarginatis. *Filamenta* numerosa convergentia basi alba. *Antheræ* lutescentes. *Styli* 5 subulati filamentis longiores virescentes, apicibus recurvis.

M foliis connatis confertis glaucescentibus oblongo-ovatis acutis punctatis, apice triquetris mucronatis. *mucronatum* 139.
HABITAT Cap. Bon. Sp. ♄.
FLORET nondum in Europa.
DESCRIPTIO. Suffrutex minimus omnium suffruticum radice fibrosa. *Caulis* erectus crassus 1—3-uncialis ramosus. *Rami* senecti biunciales et ultra decumbentes. *Folia* connata subovato-acuminata vel semiteretia, apice triquetra et mucrone parvo instructa, trilinearia glaucescentia grosse punctata, et subinde rugosiuscula.
OBS. This I received from my friend Mr. Aiton of Kew.

M. foliis connatis triquetris acuminatis subaristatis, punctatis perviridibus basi intus pustulatis, ramulisque confertissimis. *microphyllum.* 140.
M. microphyllum Haworth's Mesemb. App. no. 8. *p.* 417.
HABITAT Cap. Bon. Sp. ♄.
FLORET Mai. A. M.
DESCRIPTIO. Suffrutex pygmæus. *Caulis* senectus subpedalis decumbens ramosus. *Rami* confertissimi compressi brevissimi foliis exsiccatis vestiti. *Folia* minima omnium Mesembryanthemorum (2-linearia) confertissima connata triquetra acuminata, arista parva instructa, punctata perviridia, juniora intus basi pustulata farcta, carina versus apicem cartilaginea. *Flores* (semel tantum vidi) solitarii subaxillares brevissime pedunculati. *Pedunculi* teretes sub medio bracteis duabus foliiformibus instructi. *Calyx* 5-fidus laciniis subæqualibus apice cuspidatis. *Corolla* parva pulchella, petalis saturate rubicundis, interioribus setaceis apice saturatioribus. *Filamenta* pauca basi alba apicibus saturatioribus. *Antheræ* lutescentes. *Styli* 4 sordide virides, apicibus patentibus subulatis.
OBS. Planta juvenis præcedenti simillima est, sed facile distinguitur foliis minoribus magis triquetris, viridibus nec glaucis, minusque punctatis et mucronatis.

M. foliis triquetris acinaciformibus, marginibus dealbatis, carina subdilatata. *marginatum.* 141.
M. marginatum Haworth's Mesemb. App. no. 4. *p.* 412.
HABITAT Cap. Bon. Sp. ♄.
FLORET nondum in Europa.
DESCRIPTIO. Suffrutex pygmæus (4-uncialis) radice fibrosa.

Caulis suberectus paulo ramosus. *Rami* erecti. *Folia* inter *microphyllum* et *mutabilem*, albo-marginata.

mutabile. 142. M. foliis distinctis confertis triquetris punctatis, carina gibbosa, angulis integris cartilagineo-marginatis.

M. mutabile Haworth's Mesemb. no. 122. *p.* 377.—*M. filamentosum Plantes Grasses, page* 60. *cum icone, (exclusis synonymis) nec aliorum auctorum.*

Habitat Cap. Bon. Sp. ♄.

Floret Jul. Sept. A. M.

Descriptio. *Caulis* pedalis. *Rami* conferti. *Folia* conferta semipollicaria et ultra, juniora glaucescentia. Præcedente multoties major et longe diversa.

caulescens. 143. M. foliis perglaucis confertis deltoidibus triquetris, lateribus minime dentatis, angulo carinali integris.

M. caulescens Mill. Dic. ed. 8. *no.* 12.—*Haworth's Mesemb. no.* 121. *p.* 367.—*M. deltoides* γ. *Willd. Sp. Pl.* 2. 1052.—*Linn. Hort. Clif.* 218. 14. β.—*M. deltoides* B. *simplex angulo carinali integro, Plantes Grasses, page* 53.—*M. deltoides non dorso sed lateribus muricatis Dill. Elth. t.* 195. *f.* 243. 244.

Habitat Cap. Bon. Sp. ♄.

Floret Mai. A. M.

Descriptio. A præcedente valde distincta, et magis affinis sequenti; differt, *foliis* subcompresso triquetris, minus confertis, minus glaucis, paulo angustioribus et longioribus, magis erectis, denticulis lateralibus minoribus, et præcipue carina omnino integra; *calycibus* foliolis omnino diversis et fere planis; *Corollis* odoratis ut in *Cratægo Oxyacantha*, majoribus pallidioribus seu albido-rubicundis. *Styli* 5 brevissimi crassi erecti viridi-lutescentes. *Capsula* maliformis 5 locularis breviter pedunculata.

deltoides. 144. M. foliis glaucissimis confertis deltoidibus triquetris, lateribus carinaque dentatis, carina bractearum foliolisque calycinis integris.

M. deltoides majus Haworth's Mesemb. p. 366.—*M. deltoides* β. *Willd. Sp. Pl.* 2. 1052.—*Linn. Hort. Clif.* 218. 14. α.—*M. deltoides* A. *triplex, angulis tribus dentatis, Plantes Grasses, page* 53. *cum icone bono, excluso synon. Dillen. f.* 246.—*M. deltoides et dorso et lateribus muricatis majus Dill. Elth.* 196. *f.* 245 *et* 247.

Habitat Cap. Bon. Sp. ♄.

Floret Mai. A. M.

Descriptio. *Caulis* minus decumbens, et *Ramuli* minus conferti

ferti quam in præcedente, cui similis est sed satis distinctus. *Folia* æquilateri-triquetra albissima, magis patentia breviora, sed crassiora, quam in illa, carina magis gibbosa, dentibus angulorum validioribus. *Pedunculi* subcorymbosi bracteati. *Bracteæ* foliis minores patentes subdolabriformes, carinis integris, sed lateribus subinde dente uno alterove instructis. *Calyx* 5-fidus laciniis inæqualibus integris, 2 seu 3 majoribus bracteis conformibus at minoribus; 2 minoribus laciniis, lateribus membranaceis. *Corolla* pallide rubicunda odore præcedentis. *Stamina* convergentia. *Capsula* 5-locularis pyriformis longe pedunculata. Cætera ut in sequente.

M. foliis confertissimis deltoidibus, bracteis foliolisque majoribus calycinis triquetris glaucis et trifarie denticulatis. *muricatum.* 145.
M. deltoides Haworth's Mesemb. no. 120. *p.* 364.—*M. deltoides Willd. Sp. Pl.* 2. 1052.—*Linn. Hort. Clif.* 218. 14.—*M. deltoides* A. *triplex, angulis tribus dentatis, Plantes Graisses, page* 53. *cum icone* (*excluso synonymo Dill. f.* 245. *et* 247). —*M. deltoides et dorso et lateribus muricatis minus Dill. Elth. t.* 195. *f.* 246.
HABITAT Cap. Bon. Sp. ♄.
FLORET Mai. A. M.
DESCRIPTIO. Præcedentibus præcipue ultimo, sine dubio simillima, sed distincta mihi apparet. Duplo minor est. *Rami* magis conferti subangulati. *Folia* magis conferta, minus patentia et glauca, æquilateri-triquetra, angulis latioribus pro ratione magnitudinis, denticulis minoribus et numerosioribus. *Pedunculi* cymosi terminales basi ancipites, supra bracteati. *Bracteæ* foliiformes calycem amplectentes, angulis omnibus denticulatis. *Calyx* 5-fidus laciniis 2 paulo majoribus angulis plus minusve denticulatis nec integris. *Corolla* minor pallide rubicunda, odore præcedentium. *Petala* æqualia linearia sed latiuscula, basi attenuata, apicibus subtruncatis. *Filamenta* convergentia petalis breviora alba æqualia, basi adhærentia villis minutissimis intertextis. *Antheræ* subovatæ læte luteæ. *Styli* 5 erecti vix longitudine filamentorum, apicibus recurvantibus. *Capsula* maliformis, seu magis depressa quam in præcedente, 5-locularis, brevissime pedunculata.

†††††† REPTANTIA. *Caulibus angulatis prostratis vel decumbenti-prostratis, sed sæpius plus minusve reptantibus; foliis acute compresso-triquetris, apicibus rectis;*

tis; floribus (ratione ignota) in hortis rarissimis.

acinaciforme. 146. M. foliis acinaciformibus impunctatis connatis, marginibus subundulato-scabris, petalis lanceolatis.
M. acinaciforme Haworth's Mesemb. no. 131. *p.* 397—*Willd. Sp. Pl.* 2. 1051.—*Linn. Hort. Clif.* 219. 18.
HABITAT Cap. Bon. Sp. ♄.
FLORET rarissime Aug. Sept. A. M.
OBS. Flores nondum vidi; sed secundum Clariss. *Dillen. Hort. Elth. p.* 282. *f.* 271. amplissimi sunt et purpurei, trientales et terminales, petalis lanceolatis vel lineari-lanceolatis.

lævigatum. 147. * M. foliis acinaciformibus lævigatis, marginibus cartilagineis integris.
HABITAT Cap. Bon. Sp. ♄.
FLORET nondum in Europa.
DESCRIPTIO. Præcedenti simillima at duplo minor, foliis magis distantibus et lævibus, marginibus integris nec undulatis. *Caules* et *Ramuli* undique angulati ut in præcedente; nec ramulis superne ancipitibus ut in sequentibus.

subalatum. 148. * M. foliis compresso-triquetris impunctatis subacinaciformibus, marginibus cartilagineis scabriusculis, ramulis superne ancipitibus subalato-undulatis.
HABITAT Cap. Bon. Sp. ♄.
FLORET nondum in Europa.
DESCRIPTIO. Præcedenti valde affinis, sed abunde differt in structura foliorum et marginibus asperis; et in angulis ramorum superne (nec inferne) ancipitibus subalatis et minime undulatis, vel undulato-asperis. *Rami* et *Ramuli* inferne angulati, ut in duabus præcedentibus. Sequenti nimis affinis, sed differt structura foliorum, et angulis ramulorum minime undulatis, nec integerrimis.

edule. 149. M. foliis æquilateri-triquetris impunctatis subcanaliculatis utrinque attenuatis, carina serrulata, angulis ramulorum integerrimis.
M. edule Haworth's Mesemb. no. 129. *p.* 392.—*Willd. Sp. Pl.* 2. 1052.—*Linn. Hort. Clif.* 219. 18. *α.*—*M. falcatum majus fl. amp. luteo Dill. Elth. t.* 212. *f.* 272.—*Seba Thes. vol.* I. *tab.* 19. *f.* 6.
HABITAT Cap. Bon. Sp. ♄.
FLORET Aug. Sept. A. M. rarissime.

OBS.

OBS. Flores nondum vidi, sed maximi et lutei sunt secundum Clariss. *Dill.* l. c.

M. foliis subæquilateri-triquetris, marginibus lævibus sine cartilagine, caulibus debilibus prostratis. *æquilaterale.* 150.
M. æquilaterum Haworth's Mesemb. no. 128. *p.* 390.—*Willd. Sp. Pl.* 2. 1051.
HABITAT Nova Hollandia ♄. A. M.
FLORET Jun. A. M. rarissime.
DESCRIPTIO. Affinis præcedenti sed multo minor et laxior; *foliis* magis confertis bipollicaribus compresso-triquetris, vel æquilateri-triquetris præcipue ad basin, marginibus paginisque lævibus sine cartilagine. *Flores* tandem produxi post multum laborem; inter maximos certe et formosos numeravi, colore profunde rubicundo pedunculati. *Pedunculi* solitarii vel binati axillares vix pollicares angulati superne incrassati. *Calyx* 5-fidus foliolis inæqualibus ut in plurimis, apicibus incurvis. *Petala* linearia latiuscula emarginata saturate rubicunda, baseos rosea. *Filamenta* patentia rubicunda. *Antheræ* luteæ. *Styli* 6 subulati erecti breves ramentacei lutescentes.

M. foliis compresso-triquetris marginibus minime serrulatis vix cartilagineis, internodiis sæpe longioribus, ramulis purpurascentibus subasperis. *serrulatum.* 151. *
HABITAT Cap. Bon. Sp. ♄.
FLORET nondum in Europa.
DESCRIPTIO. Caulis primo erectus ramosissimus. *Rami* decumbentes seu prostrati angulati plerumque alterni. *Folia* viridia pollicaria et ultra, in plantis junioribus fere bipollicaria, ad lucem obsolete punctata, marginibus asperis vel minute serrulatis vix cartilagineis.
OBS. Minor, magis erecta et lignosa quam præcedens, foliis serrulatis nec integerrimis et magis confertis.

M. foliis compresso-triquetris marginibus cartilagineis serrulatis internodiis sæpe brevioribus, ramulis rubris oppositis. *rubricaule.* 152. *
HABITAT Cap. Bon. Sp. ♄.
FLORET Dec.—Feb. A. M.
DESCRIPTIO. Præcedenti valde affinis, at in omni parte fere duplo gracilior, ramulis minus effusis, semper oppositis, nec plerumque alternis; junioribus sæpe ruberrimis nec purpurascentibus, magis glabris. *Folia* breviora acutiora minus incurvata, punctis ad lucem majoribus; angulis fere duplo angustioribus quam in præcedente, sed fere eadem longitudine, magis cartilagineis serrulatisque ad margines. *Flores* terminales

nales solitarii mediocres pedunculati. *Pedunculi* semipollicares paulo compressi. *Calyx* 5 fidus laciniis inæqualibus ut in plurimis. *Corolla* semipollicaris, petalis linearibus læte rubicundis, nervo centrali saturatiore, apicibus obtusiusculis plerumque integris. *Filamenta* valde numerosa convergentia, basi pallida, apicibus rubicundis, exteriora sterilia seu deantherata; interiora antherifera. *Antheræ* magnæ luteæ. *Styli* 5 expansi ovato-lanceolati subpubescentes seu ramentacei viridi-lutescentes.

filamentosum. 153. M. foliis confertis compresso-triquetris subacinaciformibus punctatis, marginibus serrulato-asperis internodio longioribus, ramulis prostratis subreptantibus.

M. filamentosum Haworth's Mesemb. no. 123. *p.* 380.—*Willd. Sp. Pl.* 2. 1051.—*Linn. Hort. Clif.* 219. 18. β.—*M. falcatum majus flore purpureo mediocri Dill. Elth. t.* 212. *f.* 273.

Habitat Cap. Bon. Sp. ♄.

Floret Mar. Ap. rarius A. M.

Descriptio. Simillima *M. serrulato* at minor, et magis prostrata seu reptans, ramulis uti foliis magis confertis. *Folia* minus subulata, magis lucida et punctata, quam in serrulato, angulis eadem longitudine seu sæpe brevioribus, sed semper fere duplo latioribus, carina in medio magis gibba, magisque cartilaginea. *Flores* solitarii terminales, pedunculis bracteatis pollicaribus vel sesquipollicaribus, infra bracteas valde ancipitibus, supra incrassatis. *Calyx* inæqualiter 5-fidus ut in affinibus. *Corolla* mediocris saturate rubicunda pulchella. *Petala* valde numerosa linearia subæqualia integra obtusiuscula, marginibus et paginis inferioribus pallidioribus. *Filamenta* erecta brevia purpurascentia. *Antheræ* lutescentes. *Styli* 5 erecto-patentes longitudine filamentorum ramentacei lutescentes.

forficatum. 154. M. foliis triquetro-compressis apice spinulosis, caule ancipiti.

M. forficatum Haworth's Mesemb. no. 130. *p.* 394.—*Willd. Sp. Pl.* 2. 1051.

Habitat Cap. Bon. Sp. ♄.

Floret Sept. Oct. A. M. rarius.

Obs. Corolla rubicunda formosa.

crassifolium. 155. M. foliis triquetris impunctatis lævibus perviridibus basi semicylindricis, caule reptante semitereti.

M. crassifolium Haworth's Mesemb. no. 115. *p.* 350.—*Willd. Sp. Pl.* 2. 1047.—*Linn. Hort. Clif.* 217. 9.—*M. crassifolium flore purpureo Dill. Elth.* 266. *t.* 201. *f.* 257.—*Ficoides africana*

 reptans

reptans folio triangulari viridi flore saturate purpureo Brad. Succ. 4. *p.* 16. *t.* 38.

Habitat Cap. Bon. Sp. ♄. A. M.

Floret Mai.—Aug. at rarius A. M.

Descriptio. *Caules* dense cæspitosi prostrati, geniculis radicantibus. *Folia* perviridia uncialia glabra. *Flores* solitarii axillares, *Pedunculis* 1—2-pollicaribus paulo compressis, superne incrassatis. *Calyx* inæqualiter 5-fidus ut in plurimis. *Corolla* mediocris, petalis linearibus uncialibus obtusis subintegris saturate rubicundis. *Filamenta* numerosa crassa alba. *Antheræ* lutescentes. *Styli* 5 patentes subulati basi lati et ramentacei.

* β. Paulo minor, rarissime florens.

Obs. This differs in nothing but size, and in producing its flowers much more seldom. I have only been able to produce them once in fifteen years: and have once seen them in a collection in Yorkshire.

M. foliis glaucescentibus punctulatis triquetris lævibus, caule semitereti reptante, pedunculis ancipitibus. *australe.* 156.

M. australe Haworth's Mesemb. m. 114. *p.* 349.—*Willd. Sp. Pl.* 2. 1047.

Habitat Nova Hollandia. ♄.

Floret Jul. Aug. A. M. frequens; sed non omni anno.

Descriptio. Habitus et facies omnino præcedentis, et vix distincta. *Folia* subglauca uncialia glabra. *Flores* axillares solitarii, pedunculis subpollicaribus obtuse ancipitibus superne incrassatis, basi bracteis duabus oppositis foliiformibus, (basi dilatatis lateribus subcartilagineis,) instructi. *Calyx* 5-fidus laciniis inæqualibus, omnibus plus minusve membranaceis. *Corolla* mediocris. *Petala* subæqualia dilute rubicunda cuneato-linearia, apicibus subretusis denticulatis. *Filamenta* numerosa tenuia, interiora convergentia, exteriora patentia, basi minime pilosa. *Antheræ* tenues lutescentes. *Styli* 5 subulati tenues erectiusculi. *Capsula* 5-locularis magna carnosa.

M. foliis expansis obsolete triquetris clavatis viridibus obtusissimis cum mucronulo. *clavellatum* 157. *

Habitat in Nova Hollandia. ♄.

Floret nondum in Britannia.

Descriptio. Suffrutex ramosus radice fibrosa. *Rami* et *Ramuli* oppositi reptantes angulati, superne planiusculi, humi valde adpressi rubri, geniculis subtus turgidis radicantibus. *Folia* opposita et fere connata semuncialia vel uncialia viridia impunctata lævia expansa vel subrecurva clavata obtusissime

triquetra;

triquetra, apicibus obtusissimis cum mucronulo obsoleto. Flores nunquam vidi.

OBS. Duabus præcedentibus dignoscitur primo intuitu, staturâ minore, caulibus magis rubris et humi depressis, angulis apicibusque foliorum breviorum multoties obtusioribus.

OBS. 2. I received this very distinct species from the Royal Gardens at Kew, where it was raised from New Holland seeds in the present year (1803). It is the third discovered in that country; and it is somewhat remarkable that they are all genuine members of the present section.

reptans. 158. M. foliis confertissimis triquetris acutis scabris glaucis, caule filiformi reptante.

M. reptans Haworth's Mesemb. no. 113. *p.* 349.—*Willd. Sp. Pl.* 2. 1047.

HABITAT Cap. Bon. Sp. ♄.

FLORET Jul. Aug. *Ait. Kew.* 2. 185. sed sine dubio rarissime.

DESCRIPTIO. Habitus præcedentum duarum at distinctissima. *Rami* filiformes reptantes. *Folia* valde conferta, cæspitosa. Flores rarissimos nunquam vidi vel vivos vel siccos: sed rubicundi sunt secundum *D. Aiton.* l. c.

humile. 159. M. foliis triquetris oppositis ternatisque subulatis, calyce quadrifido, radice perenni.

α. Floribus rubicundis.

M. Petiveri Haworth's Mesemb. App. p. 471.—*Dwarf triangular Cape red Fig-marygold. Pet. Gaz. t.* 88. 9. *Cat.* 479.

β. Floribus luteis.

M. humile Haworth's Mesemb. App. p. 471.—*Dwarf triangular Cape yellow Fig marygold. Pet. Gaz. t.* 88. 8. *Cat.* 479.

HABITAT Cap. Bon. Sp. ♄.

FLORET ....

OBS. This species I give entirely on the authority of the figures and descriptions above cited, having never seen the originals: it is a very distinct species: its ternate leaves alone distinguish and separate it from every other in this arrangement It ought to have been named *ternatum.*

********* FLAVIFLORA. *Caulibus suffrutescentibus sæpe erectis, foliis triquetris sæpe brevissimis, petalis flavis, aurantiis, vel coccineis.*

† PERFOLIOSA. *Foliis subtriquetris valde confertis*

confertis glaucis et pulposis, petalis luteis seu croceis.

M. foliis confertis perglaucis triquetro-cylindricis acutis arcuatis, distinctis, floribus pomeridianis. *veruculatum.* 160.

M. veruculatum Haworth's Mesemb. no. 70. *p.* 260.—*Willd. Sp. Pl.* 2. 1041.—*Plantes Grasses, page* 36. *cum icone.*—*Linn. Hort. Clif.* 220. 24.—*Linn. Hort. Ups.* 128. 6.—*M. foliis veruculiformibus, floribus mellinis umbellatis Dill. Elth. t.* 203. *f.* 259.

HABITAT Cap. Bon. Sp. ♄.

FLORET Mai. Meridiano fere ad vesperem.

DESCRIPTIO. Suffrutex dumosus pedalis, ramis confertissimis crassis patentibus, foliis valde et venuste vestitis. *Folia* opposita confertissima percrassa pulposa teretiuscula arcuata acuta alba. *Flores* umbellati sive capitati terminales odorati mellini pomeridiani parvi lutei. *Pedunculi* breves teretiusculi, basi bracteis duabus foliiformibus instructi. *Calyx* percrassus pyriformis quinquefidus laciniis subæqualibus. *Petala* latiuscula, serie unica, laciniis calycinis duplo longiora. *Filamenta* erecta lutea. *Antheræ* pallidæ. *Styli* 5—7 recti luteo-virides, filamentis fere æquales. *Capsula* turbinata 5—7-locularis, sulcis itidem 5—7. Semina numerosa orbiculato-ovata acuta.

M. foliis confertis tereti-triquetris obtusis perglaucis, foliolis calycinis valde inæqualibus, petalis extus læte rubicundis intus croceis. *purpureo-croceum.* 161.

M. purpureo-croceum Haworth's Mesemb. no. 78. *p.* 257.

HABITAT Cap. Bon. Sp. ♄.

FLORET Aug.—Oct. A. M.

DESCRIPTIO. *Ramuli* foliaque valde conferti. *Flores* speciosi. *Pedunculi* valde compressi. *Petala* æqualia nitida cuneato-linearia emarginata intus crocea extus læte rubicunda.

M. foliis confertis tereti-triquetris glaucis, foliolis calycinis subæqualibus, petalis oblongis obtusis utrinque croceis. *croceum.* 162. *

M. croceum Jacq. Frag. p. 17. 59. *tab.* 11. *f.* 2.

HABITAT Cap. Bon. Sp. ♄.

DESCRIPTIO. *Caulis* fruticosus, ramosus, teres, glaber, cinereus, decumbens, ramis junioribus erectis. *Folia* semicylindrica, antice plana, ad dorsum nonnunquam obtuse angulata, ad lentem minutissime punctata, calamum crassa, pulposa, glauca glaberrima, unciam vel sescunciam longa, fragilia, in ramulis necdum elongatis conferta, connata, recta. *Pedunculi* terminales, uniflori, solitarii, erecti, calycis pentaphylli foliola oblonga

oblonga, obtusa, glauca, inæqualia. *Petala* numerosa, oblonga, obtusa, calyce duplo longiora, utrinque crocea, subtus cum majori rubedine. Stamina brevissima. *Jacquin.* l. c.

Obs. This species I have not seen. It appears by Jacquin's figure to differ from the last in being smaller; with smaller flowers and much more equal calycine segments.

†† Tardiflora. *Foliis brevibus vel subinde brevissimis, floribus (ratione ignota) in hortis rarissimis.*

graniforme. M. foliis distinctis oppositis subtriquetris ovatis graniformibus
163. trilinearibus, petalis luteis, staminibus collectis, caulibus
* triuncialibus.

Ficoides Capensis ramosa foliis minoribus, Noctiflora lutea. Brad. Succ. 2. 11. 20.

Habitat Cap. Bon. Sp. ♄.

Floret Autumno vespere.

Obs. On the authority of Professor Bradley's figure and description alone, I insert this very distinct species in my arrangement, having never beheld it myself. It appears closely allied to the next. Its time of expanding the flowers shows a strong affinity to my section *Vesperiflora*; but the structure of its leaves assimilates it more easily with the *Flaviflora*, and more especially the species *cymbiforme*, to which it will be thought by many too nearly allied. From my *Rubicunda Brevifolia* it is excluded only by the colour of its flowers: the species *mucronatum* in that subdivision is very closely allied to it, but has slenderer and longer and more mucronated leaves, which are also more semicylindrical.

cymbiforme. M. foliis cymbiformibus triquetris patentibus glaucis, caulibus
164. ramosis, ramulis subfiliformibus subrectis.

M. cymbiforme Haworth's Mesemb. no. 81. *p.* 264.

Habitat Cap. Bon. Sp. ♄.

Floret nondum in Europa.

Descriptio. *Frutex* pedalis subrectus ramis oppositis confertis filiformibus teretibus lignosis subrectis, vel subinde fere decumbentibus, ramulis superne ancipitibus. *Folia* glauca triquetra circiter 4-linearia, carina gibba parum incurva, punctis obsoletis asperiusculis. *Flores* nondum vidi.

strictum. M. foliis triquetris obtusis expansis glaucescentibus grosse
165. punctatis, caule ramosissimo lignoso stricto rigidissimo.
* Habitat Cap. Bon. Sp. ♄.

Floret

FLORET nondum in Europa.

DESCRIPTIO. *Frutex* fere tripedalis radice valde fibrosa. *Caulis* valde ramosus, strictissimus et rigidissimus omnium. *Rami* oppositi erecti teretes, compressi cortice canescente: *Folia* opposita subdistincta 6-linearia horizontaliter expansa, vel subinde parum reflexa, triquetra obtusa, nec incurva nec carina gibbosa, in quibus et expansione a præcedente notabiliter differt; juniora patentia, nec cohærentia ut in *cymbiforme*; omnia punctis numerosis majusculis viridibus lævibus. *Flores* siccos capenses tantum vidi, flavi sunt et speciosi, subternati et terminales.

M. foliis trigono-cylindricis caule erecto tetragono fruticoso, floribus luteis. *tetragonum.* 166. *

M. tetragonum Thunb. Prod. p. 91.

HABITAT Cap. Bon. Sp. ♄.

OBS. This species, which I never saw, I insert on the authority of Thunberg. It appears closely allied to both the last and the next species.

M. foliis patentibus turgido-triquetris canescentibus, marginibus obtusis lineato-punctatis, ramis ancipitibus decumbentibus. *molle.* 167.

M. molle Haworth's Mesemb. no. 80. *p.* 261.—*Willd. Sp. Pl.* 2. 1048.

HABITAT Cap. Bon. Sp. ♄.

FLORET nondum in Britannia.

DESCRIPTIO. *Frutex* fere pedalis radice fibrosa. *Caulis* ramosissimus primo erectus, dein decumbens pro ratione oneris foliorum. *Rami* oppositi patentes conferti, seniores teretes, juniores cruciatim ancipites, cortice rubro-fusco. *Folia* conferta expansa seu parum reflexa opposita obtusissima, obtuse-triquetra canescentia, paginis tribus æqualibus turgidis seu convexiusculis, marginibus aliquo lineato-punctatis. *Flores* nondum vidi.

OBS. This species (first established by *Aiton*) appears to differ from the preceding of *Thunberg*, chiefly in its very blunt hoary leaves, and ancipitous and decumbent (not square and erect) branches. They are perhaps too closely allied.

††† FREQUENTIFLORA. *Foliis longiusculis, floribus frequentibus.*

M. foliis triquetris valde compressis glaucis subscabris, foliolis calycinis ovato-cordatis, petalis subdistantibus sulphureis, pistillis luteis. *glaucum.* 168.

M. glaucum Haworth's Mesemb. no. 104. *p.* 329.—*Willd. Sp. Pl.*

Pl. 2. 1048.—*Linn. Hort. Clif.* 220. 27.—*M. scabrum flore sulphureo convexo Dill. Elth. t.* 196. *f.* 248.—*Ficoides africana frutescens folio triangulari brevi glauco Moris. Hist. sect.* 12. *t.* 6. *f.* 3.—*Ficoides afra, caule lignoso, erecto, folio triangulari ensiformi scabro, flore luteo magno, Brad. Succ.* 4. *p.* 15. *t.* 37. —*Raj. Hist. Pl.* 3. 366. 18.

HABITAT Cap. Bon. Sp. ♄.

FLORET Mai.—Jul. A. M.

DESCRIPTIO. *Pedunculi* terminales validi, inferne compressi superne teretes et valde incrassati glabriusculi, infra medium bracteis duabus foliiformibus acute triquetris instructi. *Calyx* 5-fidus, laciniis subæqualibus, 2 exterioribus majoribus cordato-ovatis, 3 interioribus minoribus plus minusve membranaceis. *Flores* terminales magni speciosi, *petalis* sulphureis linearibus basi distantiusculis, seu paucioribus et angustioribus, sed longioribus, quam in sequente, vel in plurimis; apicibus subinde emarginatis. *Filamenta* patentia sulphurea. *Antheræ* itidem sulphureæ. *Styli* 5 stellatim expansi lutescentes ramentacei. *Capsula* 5-locularis.

* *β*. Foliis brevioribus sed angulis latioribus, undique magis scabris.

aurantium. 169. M. foliis perglaucis triquetris subcompressis, bracteis semiteretibus, calycinis foliolis oblongo-ovatis, petalis aurantiis imbricatis, stylis extus purpureis.

M. glaucoides Haworth's Mesemb. no. 103. *p.* 330.

HABITAT Cap. Bon. Sp. ♄.

FLORET Mai.—Oct. quotannis bis A. M.

DESCRIPTIO. Simillima præcedenti, sed satis differt, *foliis* magis glaucis multo tenuioribus minusque compressis, carinis lævioribus: *pedunculis* tenuioribus: *bracteis* subsemiteretibus, nec acute triquetris: *calycinis* foliolis angustioribus: *floribus* minoribus: *petalis* imbricatis latioribus brevioribus et multoties numerosioribus, aurantiis; nec sulphureis et basi sæpe distinctis.

* *β*. *minor*, floribus numerosioribus.

OBS. M. *aurantium* est forte hybridum inter præcedentem et sequentem.

aureum. 170. M. foliis cylindrico-triquetris punctatis distinctis, petalis croceis, stylis atro-purpureis.

M. aureum Haworth's Mesemb. no. 106. *p.* 333.—*Willd. Sp. Pl.* 2. 1049.—*Plantes Grasses, page* 11. *cum icone.*

HABITAT Cap. Bon. Sp. ♄.

FLORET Mar.—Oct. A. M.

M. foliis tereti-triquetris subcompressis obtusis glaucescentibus, pedunculis basi lævibus, petalis coccineis. *coccineum.* 171.
M. coccineum Haworth's Mesemb. no. 71. p. 247. et M. bicolorum minus p. 246.—M. bicolorum coccineum Willd. Sp. Pl. 2. 1039. —M. coccineum, Plantes Grasses, page 83, cum icone bono.—Ficoides seu Ficus aizoides africana folio longo tenui flore aurantio Boerh. Ind. Alt. 291. 5.
HABITAT Cap. Bon. Sp. ♄.
FLORET in omni anno, copiosissime Jul.—Oct. A. M.
OBS. *Filamenta* altitudine stylorum, sed in sequente multo longiora.

M. foliis subtriquetris acutis viridibus, pedunculis calycibusque scabris, petalis intus luteis. *bicolorum.* 172.
M. bicolorum foliis subtriquetris scabris, corollis bicoloribus, Linn. Sp. Pl. ed. 1. p. 485. et ed. 2. 696. charactere specifico male mutato, et forte confuso cum M. coccineo.—Mill. Dic. ed. 8. no. 28.—Haworth's Mesemb. no. 70. p. 241.—M. bicolorum β. Willd. Sp. Pl. 2. 1039.—M. fruticescens tenuifolium flore croceo Dill. Elth. 202. f. 258.—Ficoides seu Ficus aizoides africana minor erecta triangulari folio viridi flore intus aureo, foris purpureo Moris. Hist. 3. p. 507. s. 12. t. 6. f. 4. pessima. —Ficoides Capensis frutescens folio tereti punctato petalis luteis Brad. Succ. 1. p. 8. f. 7. mala.
OBS. *Folia* longiora acutiora et viridiora quam in præcedente, calycinis laciniis multo majoribus et magis inæqualibus, sed stylis minoribus.

M. foliis subtriquetris compressis glaucis, calycinis laciniis subæqualibus, petalis luteis, caulibus effusis decumbentibus. *variabile.* 173. *
HABITAT Cap. Bon. Sp. ♄.
FLORET Jun.—Aug. A. M.
DESCRIPTIO. *Suffrutex* radice fibrosa. *Caulis* ramosus sublignosus, ramis oppositis alternisque subdistantibus decumbentibus, valde effusis, cortice fuscescente. *Folia* fere ut in *M. deflexo* anguste linearia scabra glauca, obsolete triquetra subcompressa acuta opposita distincta et aliquo distantia. *Flores* terminales subpaniculati pedunculati. *Pedunculi* teretes superne clavati et rugosiusculi. *Calyx* 5-fidus laciniis subæqualibus tribus interioribus membrana exusto-purpurascente instructis. *Corolla* mediocris, *petalis* lineari-lanceolatis colore mirabiliter variabile: in eodem flore, primo intus est aurantius seu croceus, tunc luteus, mox pallidus seu albicans tinctura rubedinis, costâ utrinque rubicundâ; dein ex albido-carneus extus rubicundus costa saturatiore; et denique absolute

absolute rubicundus sed intus pallidior, excepta costa. *Filamenta* pallida basi rubicunda. *Antheræ* luteæ. *Styli* 5 ovato-acuminati, senecti patentes. *Capsula* turbinata 5-locularis.

OBS. Præcedentibus primo intuitu dignoscitur foliis glaucioribus et tenuioribus, et a *deflexo*, *retroflexo*, et *violaceo*, (quibus maxime affinis est) petalis luteis, et foliis minus glaucis.

tenuifolium. 174. M. foliis semiteretibus subcompressis subulatis viridibus glabris internodiis longioribus, petalis coccineis, caulibus decumbentibus.

M. tenuifolium Haworth's Mesemb. no. 68. *p.* 239.—*Willd. Sp. Pl.* 2. 1040.—*Plantes Grasses, page* 82. *cum icone.*—*Linn. Hort. Cliff.* 220. 26.—*Linn. Hort. Ups.* 128. 4.—*M. tenuifolium procumbens folio tenuiore viridi, flore coccineo, Dill. Elth. t.* 201. *f.* 256.—*Ficoides Capensis humilis teretifolia flore coccineo Brad. Succ.* 1. *p.* 13. *t.* 9.—*Raj. Hist. Pl.* 3. 365. 8.—*Ficoides africana minor procumbens folio tenuiore viridi flore coccineo Moris. Hist.* 3. *p.* 507. *s.* 12. *t.* 8. *f.* 6.

HABITAT Cap. Bon. Sp. ♄.

FLORET Jul. A. M. pulcherrime.

DESCRIPTIO. *Suffrutex* ramosus decumbens effusus, radice fibrosa. *Rami* oppositi remoti, juniores graciles subangulati virides; senecti fusci teretiores. *Folia* graciliora omnium, internodiis longiora, obsolete triquetra subcompressa viridia acuta punctata. *Flores* magni speciosi subaxillares solitarii. *Pedunculi* elongati graciles teretes glabri, superne incrassati, bracteati infra medium. *Calyx* 5-fidus ut in affinibus. *Petala* lineari-lanceolata subæqualia, intus coccinea extus pallidiora emarginata. *Filamenta* numerosa alba convergentia. *Antheræ* parvæ luteæ. *Styli* 5, stellatim expansi lanceolati valde ramentacei. *Capsula* 5-locularis.

Thunbergii. 175. * M. foliis trigonis lævibus, caule decumbente articulato, floribus luteis.

M. læve Thunb. Prod. 90. *nec læve, corollis rubicundis Ait. Kew.* 2. 187.

HABITAT Cap. Bon. Sp. ♄. ?

OBS. I have not seen this plant, but have taken it from *Thunberg's Prodromus* and changed its name; because that of *læve* has long been preoccupied by a tall erect woody species, with rubicund flowers, in the *Hort. Kew.* above-mentioned, and inserted in this arrangement in the section *Rubicunda, Teretiuscula.*

********* ADUNCA. *Foliis distinctis (sine vaginis incrassatis) apicibus plus minusve aduncis, petalis rubicundis, caulibus suffrutescentibus rarissime reptantibus.*

† CLAUDENTIA. *Floribus vespere claudentibus, foliis lævibus.*

M. foliis confertis semicylindricis acuminatis, caulibus filiformibus numerosis reptantibus. *filicaule.* 176. *

HABITAT Cap. Bon. Sp. ♄.

FLORET Sept. A. M. rarissime.

DESCRIPTIO. *Rami* conferti cæspitosi prostrati filiformes, geniculis omnibus radicantibus. *Folia* conferta incurva semiteretia subulata viridia, apicibus setaceis paulo recurvis. *Flores*, bis tantum vidi, subterminales parvuli pulchelli. *Pedunculi* filiformes elongati flexuosi fuscescentes, medio bracteis duabus foliiformibus instructi, inferne compressi, superne teretes. *Calyx* 5-fidus. *Corolla* petalis linearibus subintegris basi angustioribus, intus pallide rubicundis, extus saturatioribus præcipue ad apicem. *Filamenta* convergentia, basi alba, superne saturate rubicunda. *Styli* 5 erecti subulati virides.

M. foliis semicylindricis acuminatis, apice valde recurvis, ramulis erectis valde confertis. *aduncum.* 177. *

HABITAT Cap. Bon. Sp. ♄.

FLORET Feb. Mar. A. M.

DESCRIPTIO. Suffrutex semipedalis dumosus valde ramosus radice fibrosa. *Rami* erecti dense conferti. *Folia* conferta semiteretia subulata apicibus valde recurvis, unde nomen aduncum. *Flores* terminales. *Pedunculi* tenelli supra medium bracteati. *Calyx* 5-fidus ut in plurimis, membranis laciniarum valde ustulatis. *Corolla* parvula, petalis rubicundis apicibus saturatioribus. *Filamenta* convergentia albida, apicibus rubicundis. *Styli* 5 viridi-lutescentes subulati patentes.

M. ramulis, foliisque cylindricis subulatis spiniformibus erectis, apicibus subrecurvis, pedunculis carinisque bractearum scabriusculis. *spiniforme.* 178.

M. spiniforme Haworth's Mesemb. no. 69. p. 240.

HABITAT Cap. Bon. Sp. ♄.

FLORET Sept. Oct. A. M. rarissime.

DESCRIPTIO. Suffrutex semipedalis ramosus, radice fibrosa. *Rami* pauci sæpe alterni erecti, juniores ancipites, seniores

teretiores

teretiores cortice pullo. *Folia* teretia, juniora teretiuscula subulata gracilia paulo elongata spiniformia viridia, apicibus subsetaceis et aliquo aduncis. *Flores* bis tantum vidi terminales. *Pedunculi* bracteati superne teretes, basi-compresso-angulati purpurei, et uti carina bractearum, papuloso-asperi. *Calyx* 5-fidus ut in plurimis membranis laciniarum basi ustulatis. *Corolla* parvula petalis læte rubicundis basi pallidioribus: cæteris fere ut in præcedente.

curvifolium. 179. * M. foliis basi expansis, tunc incurvo-recurvis compresso-semiteretibus subulatis, ramulis decumbentibus asperiusculis angulato-compressis.

HABITAT Cap. Bon. Sp. ♄.

FLORET Oct. A. M.

DESCRIPTIO. *Suffrutex* semipedalis et ultra ramosus, radice fibrosa. *Rami* numerosi oppositi subconferti, juniores angulato-compressi asperiusculi purpurei, seniores rubro-fusci. *Folia* juniora subconferta, seniora internodiis longiora, biunciàlia grossa distincta compresso-semicylindrica subulata subcuspidata, basi horizontalia, tunc fere ad medium incurvata, tunc ad apicem paulo recurvantia, et cornua taurorum bene repræsentantia. *Flores* numerosi terminales mediocres, pulcherrimi si æstu expositi, hilariter rubicundi. *Pedunculi* terminales, supra medium bracteati teretes, basi læves, superne asperiusculi. *Calyx* 5-fidus, membranis laciniarum rufofuscis. *Petala* linearia subinde emarginata lætissime rubicunda. *Filamenta* exteriora sterilia erecta setacea, apicibus recurvis, basi alba, supra medium rubicunda, apicibus albis; interiora convergentia antherifera brevia alba, villis minutis adhærentia. *Antheræ* luteæ. *Styli* 5 filamentis vix longiores nigricantes.

virgatum. 180. M. foliis triquetro-compressis acutis subglaucis remotis, ramis virgatis elongatis distantibus.

M. compressum Haworth's Mesemb. App. p. 416. *nec compressum, no.* 103. *p.* 326.

HABITAT Cap. Bon. Sp. ♄.

FLORET Feb.—Ap. A. M.

DESCRIPTIO. Suffrutex fere tripedalis ramosus radice fibrosa. *Caulis* lignosus tenuis debilis et vix erectus. *Rami* elongati virgati stricti graciles remoti, demum pro ratione oneris foliorum decumbentes; juniores ancipites albo-virides, seniores teretes, cortice canescente vestiti rimis longitudinalibus. *Folia* valde distincta opposita subglauca acute triquetra-compressa acutiuscula punctata, apice mucronulo recurvato. *Flores* pauci subterminales

subterminales parvuli. *Pedunculi* basi subcompressi, superne paulo incrassati. *Calyx* 5-fidus. *Corolla* læte rubicunda, petalis integris vel subinde emarginatis. *Filamenta* saturate rubicunda basi pallidiora. *Antheræ* oblongæ lutescentes. *Styli* 5 filamentis longiores albidi subulati revoluti ramentacei.

OBS. This species is not so readily propagated from cuttings as many others.

M. foliis subtriquetro-compressis minute papulosis apice recurvantibus, radice ingenti tuberosa. *tuberosum.* 181.

M. tuberosum Haworth's Mesemb. no. 86. *p.* 271.—*Willd. Sp. Pl.* 2. 1039.—*Plantes Grasses, page* 78. *cum icone.*—*Linn. Hort. Clif.* 216. 4.—*M. fruticescens radice ingenti tuberosa Dill. Elth. t.* 207. *f.* 264.

HABITAT Cap. Bon. Sp. ♄.

FLORET Jul.—Oct. A. M.

DESCRIPTIO. Suffrutex dumosus bipedalis ramosissimus radice tuberosa, et per ætatem fere magnitudine capitis humani. *Caulis* erectus basi tuberosus. *Rami* alterni duri, ramulis erectis teretibus cortice albo. *Folia* opposita valde distincta minute papulosa pallide viridia compresso-triquetra flexuosa seu usque ad medium subincurva, tunc ad apicem recurvantia, carinis apicibusque obtusis. *Flores* terminales sæpe ternati minimi. *Pedunculi* breves teretes, bracteis duabus foliiformibus. *Calyx* subæqualiter 5-fidus laciniis minoribus paulo membranatis. *Corolla* misera minuta petalis paucis uniserialibus spatulato-linearibus integris, extus rubicundis, intus rubicundis tinctura aliquo fulva, calycinis laciniis vix longioribus. *Filamenta* convergentia rubicunda longitudine petalorum, basi alba et villis albis minutis cohærentia ut in *M. curvifolio.* *Antheræ* albæ minutæ. *Styli* 6 brevissimi erecti valde ramentacei. *Capsula* minuta angulata 6-locularis.

OBS. This species, like the last, is tardy in striking roots from cuttings. It is not *closely* allied to any in the genus.

†† (*a*) INCLAUDENTIA. *Floribus nocte et die expansis, bracteis basi latissimis, foliis*

(*a*) *Obs.* The inirritability of the corollæ of this subdivision is very remarkable: because almost every other individual in the Genus bears either diurnal or nocturnal flowers; which in fine weather open and close at their proper hours, in the most punctual and regular manner. The flowers in this division, it is true,

compresso-triquetris plus minusve scabrido-punctatis, ramulis valde compressis.

bracteatum. 182. M. foliis viridibus, bracteis 4 late-ovatis carinatis calycem amplectentibus, petalis basi albis, ramulis fusco-rubris.

M. bracteatum Haworth's Mesemb. no. 101. *p.* 319.—*Willd. Sp. Pl.* 2. 1050. (*excluso synonymo Dillenii quod ad radiatum respondet*).

HABITAT Cap. Bon. Sp. ♄.

FLORET Aug.—Nov. copiose per diem et noctem.

OBS. The young branches are first purple and then brown; each *peduncle* has two pairs of *bracteæ* which are imbricated on the *calyx* and each other; and lastly the *petals* are rubicund with white bases, forming a white circle in the *corolla*. I first saw this species at Kew; for it I am indebted to the friendship of Mr. Aiton.

radiatum. 183. M. foliis glaucescentibus, bracteis lato-ovatis pedunculis superne amplectentibus, petalis omnino rubicundis, ramulis canescentibus.

M. radiatum Haworth's Mesemb. no. 102. *p.* 322.—*M. uncinatum scabrum petalis purpureis circumactis Dill. Elth. t.* 197. *f.* 249.

HABITAT Cap. Bon. Sp. ♄.

FLORET Aug.—Nov. copiose per diem et noctem.

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true, I have observed to open *more*, or expand *flatter* to the welcome beams of the sun, than to a cold or wet; or indeed a clouded, or an evening sky; although warm. The cause of this incapacity of closing the flowers, appears to arise from the structure, texture, number, and position of the inner stamineous petals; which in my *Observations* on this Genus I have compared to the fringe-like processes in *Passiflora*. These processes, or whatever they are, almost separate the *Mesembryanthema Inclaudentia* generically, from all other *Mesembryanths*; they communicate to them the appearance of a flower of the order *Polygamia Superflua*.

Obs. 2. The *Mesembryanthema Inclaudentia* commence their flowering in August, and continue in beauty until near Christmas, and are undoubtedly, during all that period, the greatest ornaments a collection of succulent plants can possess. Many of the *Linguæformia* expand their large shining yellow flowers at the same time: accompanied by the annual blooming of *M. bellidiflorum.*

Obs. 3. As all the species of this division are favourites with the gardeners, I have described them in a manner that they will understand.

OBS.

OBS. This is extremely like the last, but the *branches* are stouter, very much compressed or almost alated, at first green, afterwards hoary; the *leaves* are more glaucous and longer, (often above an inch long) the *bracteæ* only two on the upper part of each *peduncle*, and not in contact with the *calyx*: and lastly the *petals* are much longer and deep rubicund to the base (particularly in decay), so that the bottom of the *corolla* is destitute of the white circle seen in *bracteatum*.

M. foliis glaucescentibus æquilateri-triquetris scaberrimis, bracteis ovato-acutis pedunculis superne amplectentibus, petalis omnino perrubicundis. *compressum.* 184.

M. compressum Haworth's Mesemb. no. 103. p. 326. nec M. compressum App. p. 416. quod virgatum supra nominavi.

HABITAT Cap. Bon. Sp. ♄.

FLORET Aug.—Nov. copiose per noctem et diem.

OBS. The old branches are white: the *leaves* are more scabrous than in either of the two preceding, and much less compressed and more glaucous and longer than in the first, with narrower angles than either the first or last; the *bracteæ* are also narrower and distant from the *calyx*, and only two on each *peduncle*; the *petals* are shorter than in the last, and of a still deeper rubicund colour. The young *branches* are very much compressed and sometimes tuberculated, at first greenish, and afterward hoary.

OBS. 2. The flowers have a grateful and rather musky scent, somewhat like those of Hawthorn, or, as it is more commonly called, May.

M. foliis glaucescentibus gracilibus scabriusculis, bracteis ovato-acutis calyce fere amplectentibus, petalis rubicundis, ramulis strictissimis. *stellatum.* 185.

M. stellatum Haworth's Mesemb. App. no. 6. p. 416.

HABITAT Cap. Bon. Sp. ♄.

FLORET Aug.—Nov. copiose per noctem et diem.

OBS. This species is very closely allied to the three preceding, but is sufficiently distinct. The young *branches* are straighter and at first green, afterward brown. The *leaves* are longer, slenderer, and smoother, glaucous, and but little compressed. The *bracteæ* are only two, and nearly embrace the *calyx* as in *bracteatum*; and lastly the *petals* are rubicund with paleish bases, shorter, fewer, and more distant than in *radiatum* or *compressum*. In other respects it agrees with them.

*********** PER-

*********** PERFOLIATA. *Caulibus duris lignosis, foliis valde connatis triquetris, vaginis carnosis, apicibus aduncis; floribus sæpius albis rarius rubicundis.*

† AXILLARIA. *Floribus axillaribus solitariis rubicundis.*

geminatum. 186. * M. foliis erectis perglaucis lævigatis ultra medium connatis marginibus cartilagineis, ramulis dichotomis palmaribus.
HABITAT Cap. Bon. Sp. ♄.
FLORET nondum in Europa.
DESCRIPTIO. *Suffrutex* pygmæus radice fibrosa. *Ramuli* dichotomi ætate fere semipedales adscendentes, semper omnino geminatim orientes. *Folia* erecta perglauca triquetra valde lævigata connata post medium, et grossa, marginibus cartilagineis. *Flores* vel vivos vel siccos nunquam vidi.

perfoliatum. 187. M. foliis valde connatis glaucis acuminatis punctatis apice subtus triacanthis.
α. *triacanthum* foliis glaucis subtus triacanthis.
M. perfoliatum Mill. Dic. ed. 8. *no.* 19.—*Haworth's Mesemb. no.* 95. *p.* 307.—*M. uncinatum* β. *Willd. Sp. Pl.* 2. 1050.—*Linn. Hort. Clif.* 218. 16. *α.*—*M. uncinatum B. majus foliis subtus triacanthis Plantes Grasses, page* 54.—*M. perfoliatum foliis majoribus triacanthis Dill. Elth. t.* 193. *f.* 240.—*Ficoides africana frutescens perfoliata, folio triangulari glauco punctato, &c. Brad. Succ.* 5. *p.* 13. *t.* 46. *nec* 26. *quæ mihi incognita est, ut olim Cel. Dillenio.*
DESCRIPTIO. *Pedunculi* solitarii axillares breves bis bracteati. *Bracteæ* foliiformes perfoliatæ oppositæ, pedunculis tegentibus. *Calyx* 5- seu 6-fidus, laciniis exterioribus majoribus denticulatis, cæteris minoribus membranis ustulatis. *Flores* axillares pauci mediocres seu parvuli. *Petala* numerosa angustissima rubicunda. *Filamenta* convergentia basi alba, superne rubicunda, exteriora sterilia, interiora antheris parvis luteis instructa. *Styli* 5 viridi-lutescentes subulati, demum patentes.
* β. monacanthum majus foliis perglaucis subtus unidentatis.
Ficoides africana, &c. Brad. Succ. 3. *p.* 8. *t.* 26.
OBS. Bradley gives the same name to this as to *α.* but describes them as distinct, and so they appear by the figures. *β.* which I never saw, appears by his figure to be three times the

the size of α. with leaves more glaucous and less toothed. If it were a young plant of α, as Dillenius ingeniously suggests, the leaves would be much toothed, and it would produce no flowers; as in age alone, this species perfects its fructifications.

HABITAT Cap. Bon. Sp. ♄.

FLORET Aug. at rarissime A. M.

M. foliis valde connatis subglaucis punctatis apice subtus diacanthis. *uncinatum.* 188.

M. uncinatum Mill. Dic. ed. 8. *no.* 18.—*Haworth's Mesemb. no.* 96. *p.* 309.—*M. uncinatum Willd. Sp. Pl.* 2. 1050.—*Linn. Hort. Clif.* 218. 16.—*M. uncinatum A. minus foliis subtus diacanthis Plantes Grasses, page* 54. *cum icone.*—*M. perfoliatum foliis minoribus diacanthis Dill. Elth. t.* 193. *f.* 239. —*Ficoides africana folio triangulari glauco perfoliato brevissimo apice spinoso Brad. Succ.* 3. *p.* 8. *t.* 27.

HABITAT Cap. Bon. Sp. ♄.

FLORET Aug. rarissime A. M.

DESCRIPTIO. *Flores* solitarii axillares parvuli rubicundi. *Pedunculi* bracteati fere usque ad calycem. *Calyx, Petala, Filamenta,* et *Styli* fere ut in præcedente, at minores.

M. foliis integerrimis valde connatis perviridibus impunctatis lævibus apicibus uncinato-recurvis, petalis rubicundis. *viride.* 189.

M. viride Haworth's Mesemb. no. 97. *p.* 314.

HABITAT Cap. Bon. Sp. ♄.

FLORET Jul. per noctem et diem.

DESCRIPTIO. *Flores* axillares solitarii mediocres. *Pedunculi* longi clavati teretes lævissimi, ultra medium bracteis duabus foliiformibus tecti. *Calyx* 5-fidus, laciniis valde inæqualibus, duabus exterioribus expansis majoribus apicibus setaceis aduncis; tertia reflexa triplo minore apice seta recta, basi uno latere membranata; laciniis 4 et 5 itidem reflexis multoties minoribus valde membranatis apicibus rectis. *Petala* exteriora per noctem et diem expansa, pauca cuneato-linearia pallide rubicunda; interiora numerosa erecta setacea alba, apicibus recurvis et sæpe purpurascentibus. *Filamenta* pauca brevia alba. *Antheræ* luteæ. *Styli* 7 subulati, apicibus patentibus setaceis. *Capsula* 7-locularis.

OBS. The structure of the *Corolla* in this species, and the odd circumstance of its continuing open day and night, agree exactly with the species in my division *Inclaudentia*, in the section *Adunca*, from which however the perfoliation of its

its leaves effectually excludes it. I have given a detailed account of the structure of the inner petals of the *Inclaudentia*, in my *Observations* on the Genus Mesembryanthemum, *p.* 321 et 324: it creates, almost, a generical difference, between them and the numerous species which have a power of closing their flowers; and is alone the cause of their being unable to fold them up after they are once expanded.

†† (a) PANICULATA. *Floribus albis numerosis paniculatis, foliis glaucis, vaginis minus carnosis, sed linea longitudinali magis exaratis quam in divisione præcedente, ramulis sæpius subtetragonis.*

tenellum. 190. M. foliis trilineatibus et ultra patentibus tenuibus vaginisque foliorum scabris, ramis filiformibus.

M. tenellum Haworth's Mesemb. no. 98. *p.* 315.

HABITAT Cap. Bon. Sp. ♄.

FLORET Aug. copiose A. M.

DESCRIPTIO. *Suffrutex* fere pedalis dumosus. *Rami* alterni vel oppositi tenues, seu fere filiformes, vix angulati, subrigidi valde patentes, subinde fere decumbentes, vaginis foliorum undique tecti. *Folia* perfoliata glauca æquilateri-triquetra tenuia, valde subulata et patentia et acuta et adunca, aspera præcipue ad carinam et margines, vaginis itidem scabris et linea longitudinali utraque exaratis usque ad basin. *Flores* parvi (6-lineares) paniculati numerosi terminales. *Pedunculi* teretes asperi clavati, superne nudi, inferne circa medium bracteis duabus perfoliatis et omnino foliiformibus tecti. *Calyx* 5-fidus, laciniis 3 fere æqualibus longitudine petalorum basi subovatis acumine longo subulato recurvante, laciniis 4 et 5, brevioribus plus minusve membranatis, apicibus cornutis ut in plurimis. *Petala* linearia angustissima nivea lucida, *exteriora* unica serie pauca seu aliquo distantia, æquali latitudine obtusa vix regulariter expansa; *interiora* capillacea valde in cono collecta circa filamenta, apicibus recursvis. *Filamenta* alba convergentia nitida et fere pellucida inæqualia robusta, villis minutis basi cohærentia. *Antheræ* perluteæ. *Styli* 5 erecti collecti subulati viridi-lutescentes, longitudine filamentorum. *Capsula* 5-locularis.

(a) The four first species of this division are more difficultly propagated from cuttings than many others.

M. foliis subtrilinearibus horizontalibus vaginisque foliorum glabris, carina apice scabra, ramis rigidissimis patentibus. *rigidum.* 191. *
Habitat Cap. Bon. Sp. ♄.
Floret Aug. copiose A. M.
Descriptio. Præcedenti simillima magnitudine et statura. Differt *ramis* et ramulis multo magis rigidioribus et firmioribus, nunquam decumbentibus. *Folia* horizontalia paulo breviora et crassiora et sublucida, apice minus adunca omnino cum vaginis (apice carinæ excepta) glabra, nec scabra. *Pedunculi* tenuiores glabri fere usque ad calycem bracteati. *Bracteæ* 4 vel 6 nec 2 in singulo pedunculo glabræ, duplo vel triplo breviores quam in præcedente, apicibus valde recurvis. *Calyx* glaber duplo minor, laciniis fere æqualibus, 2 majoribus petalis fere duplo brevioribus planis triangularibus patentibus, cæteris membranatis apicibus subcornutis recurvis. *Petala* ut in præcedente at magis regularia nivea, valde nitentia et acuta. Cætera ut in *tenello.*

M. foliis semuncialibus glabris erectis carina minime serrulata, caule tripedali ramisque erectis. *parviflorum.* 192. *
Habitat Cap. Bon. Sp. ♄.
Floret Aug. A. M.
Descriptio. Præcedentibus simillima, sed omnino major, et differt primo intuitu, foliis bracteis ramisque erectis; nec patentibus vel horizontalibus. *Caulis* tripedalis, nec pedalis. *Rami* et ramuli erecti, nec patentes. *Folia* in junioribus uncialia, in florentibus 4—6-linearia, apicibus minus aduncis quam in præcedentibus. *Pedunculi* tenuiores usque ad calycem bracteati. *Bracteæ* 6 erecti, minores. *Calyx* minor, sed laciniis fere ut in præcedente, at minoribus. *Corolla* pulchella (trilinearis), petalis fere ut in *rigido,* sed minoribus albidioribus et fere margaritaceis, et valde regularibus et concinnis. Cætera ut in præcedentibus at minoribus.

M. foliis uncialibus virescentibus glabris carina subtuberculata, caulibus decumbentibus. *vaginatum.* 193. *
Habitat Cap. Bon. Sp. ♄.
Floret non adhuc in Britannia.
Descriptio. Suffrutex bipedalis vel ultra, ramosus radice fibrosa. *Rami* alterni subremoti, primo erecti, tunc decumbentes, denique deflexi effusi cortice cinereo; juniores obsolete quadranguli virides. *Folia* opposita remota triquetra subulata patentia virescentia obsolete punctata gracilia uncialia vel plus in junioribus, in senectis breviora carinâ tuberculis

culis cartilagineis confluentibus instructâ, apicibus mucronato-aduncis. *Flores* non vidi.

Obs. This species was raised from Cape seeds by my friend Mr. Howard of Kingsland, in the year 1802, and obligingly communicated by him to me. It is extremely like the last, but appears larger and less erect, and has longer leaves, whose keels are not minutely serrulated, but cartilaginously tuberculated.

Obs. 2. Since the above was written, my friend Mr. Donn, curator of the Botanic Garden at Cambridge, has likewise communicated this new species to me. He also raised it from Cape seeds in the year 1802, but it has not yet produced flowers with him.

imbricatum. 194. M. foliis glaucis remotis lævibus punctulatis sesquipollicaribus apicibus aduncis, calycibus turbinatis basi valde attenuatis.

M. imbricatum Haworth's Mesemb. no. 99. *p.* 317.

Habitat Cap. Bon. Sp. ♄.

Floret Jul. copiose A. M.

Descriptio. Suffrutex tripedalis erectus. *Rami* oppositi et alterni remoti, juniores obsolete quadranguli, vaginis carnosis foliorum undique tecti; seniores teretes rufescentes. *Folia* 1—2-pollicaria perfoliata triquetra aliquo gracilia, glauca glabra punctulata, apicibus acutis mucronato-recurvis, vaginis carnosis fere ad basin linea longitudinali exaratis ut in præcedentibus. *Flores* subterminales subpaniculati numerosi vix mediocres. *Pedunculi* obsolete tetragoni bracteis 4—8 foliiformibus subcompressis usque ad calycem tecti. *Calyx* turbinatus basi angustus 5-fidus ut in plurimis. *Corolla* fere uncialis, petalis albis obtusis ut in præcedentibus at majoribus. *Cætera* ut in præcedentibus at majora.

multiflorum. 195. M. foliis glaucis remotis lævibus punctatis bipollicaribus apicibus aduncis, calycibus cylindricis basi subattenuatis.

M. multiflorum Haworth's Mesemb. no. 100. *p.* 318.—*Pluck. Phyt. tab.* 117. *f.* 1.—*Ficoides africanum Mesembryanthemum, seu Ficus aizoides frutescens floribus albis parvis umbellatis, Pluck. Almagest.* 149.

Habitat Cap. Bon. Sp. ♄.

Floret Jul. A. M. copiose.

Descriptio. Præcedenti nimis affinis; præcipue differt statura majore, figuraque capsularum. *Frutex* erectus tripedalis et ultra. *Flores* copiosiores et majores quam in *imbricato*. *Pedunculi* tenuiores: *Bracteæ* eadem longitudine sed

sed duplo tenuiores, et pedunculi ad calycem undique amplectentes: *Calyx* fere cylindricus basi paulo attenuatus, nec turbinatus, basi maxime attenuatus ut in præcedente; duplo longior et fere duplo crassior. *Corolla* major. *Capsula* figura calycis ut in plurimis, multo magis elevata supra calycem, et magis umbilicata et quinquangulata quam in *imbricato*.

M. foliis subglaucis lævibus confertis uncialibus obtusis mucronulo subrecurvo, vaginis apice incrassatis. *foliosum.* 196. *
HABITAT Cap. Bon. Sp. ♄.
FLORES in Britannia non produxit ullos.
DESCRIPTIO. Suffrutex bipedalis, ramosissimus, ramis oppositis confertis, primo rectis demum vix rectis pro ratione oneris foliorum. *Ramuli* primo compressi virides dein angulati, denique rufescentes cinerei et teretes. *Folia* conferta triquetra glauca vix punctata obtusa mucronulo brevissimo rectiusculo, vaginis superne tantum carnosis et linea abbreviata exaratis, in qua præcedentibus differt, sed cum sequenti convenit. *Flores* non vidi.

M. foliis subglaucis scabrido-punctatis remotis biuncialibus gracilibus apicibus recurvis, vaginis apice valde incrassatis. *umbellatum.* 197.
M. umbellatum Haworth's Mesemb. no. 107. *p.* 336.—*Willd. Sp. Pl.* 2. 1038.—*Raj. Hist. Pl.* 3. 365. 11.
HABITAT Cap. Bon. Sp. ♄.
FLORET Aug. A. M. copiose.
DESCRIPTIO. Suffrutex erectus tripedalis et ultra. *Rami* remoti erecto-patentes, primo compressi virides, dein teretes rubro-fusci. *Folia* remota viridiora fere duplo longiora sed non crassiora, apicibus magis aduncis quam in præcedente, vaginis apice magis incrassatis. *Flores* paniculati numerosi vix mediocres. *Pedunculi* bibracteati viridi-lutescentes. *Bracteæ* connatæ parvæ triquetræ punctatæ, apicibus expansis, basi carinaque minime cartilagineis. *Calyx* parvus scaber 5-fidus, laciniis subæqualibus. *Corolla* parva seu fere mediocris, petalis albis æqualibus, basi attenuatis, apicibus obtusis et plerumque integris. *Filamenta* numerosa alba inæqualia. *Antheræ* parvæ luteæ. *Styli* 5 lutescentes, juniores erecti, seniores expansi acuminati longiusculi tenues. *Capsula* parva glabra 5-angularis 5-locularis.

*********** ASPERICAULIA. *Caulibus suffrutescentibus, ramulis plus minusve scabris.*

M. foliis semicylindricis obtusiusculis subrecurvis papulosis, laciniis *micans.* 198.

laciniis calycinis subacutis, petalis acutis atro-coccineis basi purpureis.

M. micans Haworth's Mesemb. no. 84. *p.* 268. *et App. no.* 17. *p.* 423.—*Willd. Sp. Pl.* 2. 1043.—*Linn. Hort. Clif.* 220. 30. —*M. micans, flore phœniceo filamentis atris Dill. Elth. t.* 215. *f.* 282.—*Raj. Hist. Pl.* 3. 366. 21.—*Ficoides capensis flore croceo, Pet. Gaz. t.* 78. *f.* 9. *satis bona.*—*Ficoides capensis, folio tereti argenteo petalis perplurimis aurantiacis. Brad. Succ.* 1. *p.* 9. *t.* 8.

HABITAT Cap. Bon. Sp. ♄.

FLORET Mai.—Oct. A. M.

DESCRIPTIO. *Suffrutex* decumbens radice fibrosa. *Rami* teretes remoti graciles duri et asperi. *Folia* remota semiteretia, papulis minutis pulchre micantia obtusiuscula, sæpe flexuoso-recurva. *Flores* subaxillares solitarii pulcherrimi majores. *Pedunculi* elongati teretes superne incrassati magis asperi quam folia, plus minusve bracteis foliiformibus muniti. *Calyx* 5-fidus papillis magnis asperis, laciniis subæqualibus subacutis, 3 minoribus membranatis ut in plurimis. *Petala* acuta intus coccinea, extus omnino pallidiora, basi intus læte rubicunda. *Filamenta* numerosa convergentia, demum erecta, exteriora sterilia aterrima subirritabilia, interiora alba. *Antheræ* flavescentes. *Styli* 5 patentes subvillosi.

β. Paulo minor.

M. micans pallidum Haworth's Mesemb. p. 269.

speciosum. 199. M. foliis semicylindricis subulatis subacutis incurvis papulosis, laciniis calycinis obtusis, petalis atro-coccineis obtusis basi viridibus.

M. speciosum Haworth's Mesemb. no. 83. *p.* 267.

HABITAT Cap. Bon. Sp. ♄.

FLORET Mai.—Oct. A. M.

DESCRIPTIO. Simillima præcedenti sed distincta. *Rami* ramuli foliaque magis remoti et diffusi. *Folia* læviora magis subulata acuta et incurvata. *Pedunculi* longiores læviores. *Calycinæ* laciniæ læviores et multo obtusiores membranis multo majoribus. *Corolla* magis campanulata et speciosa, perpulchra, petalis basi utrinque læte viridibus, nec læte rubicundis. *Filamenta* aterrima et alba, *Antheræ, Stylique* fere ut in *micante.*

maculatum. 200. M. foliis expansis remotis obtusis compresso-semicylindricis, caulibus maculatis erectis.

M. maculatum Haworth's Mesemb. no. 85. *p.* 270.

HABITAT Cap. Bon. Sp. ♄.

FLORET

FLORET ....
OBS. The flowers of this species I have not yet seen. It resembles both the preceding very much, but is less diffuse, taller, and more erect; its branches are less rough, and more slender and wiry; and its leaves are shorter and more horizontal.

M. foliis cylindrico-triquetris obtusis, punctis pulverulentis scabris, calyce 6-fido, petalis rubicundis. *pulverulentum.*
M. pulverulentum Haworth's Mesemb. no. 82. *p.* 265. 201.
HABITAT Cap. Bon. Sp. ♄.
FLORET Mai. M. rarissime.
DESCRIPTIO. *Suffrutex* semipedalis ramis subconfertis. *Folia* opposita valde obtusa pulverulenta conferta. *Florem* unicum tamen tantum in Britannia produxit, mediocrem. *Pedunculus* primo terminalis dein axillaris pollicaris et ultra, teres papulosus superne paulo incrassatus ebracteatus. *Calyx* 6-fidus laciniis valde inæqualibus, 2 exterioribus multo majoribus foliiformibus; 4 interioribus minoribus membranis purpurascentibus plus minusve munitis. *Corolla* facie et magnitudine M. *barbati* nobis, petalis irregulariter expansis soli ardenti meridiano et pomeridiano, profunde rubicundis apicibus obtusis integris, basi valde attenuatis et albicantibus. *Filamenta* numerosa erecta aurantia, basi pallidiora. *Antheræ* lutescentes. *Styli* 6 longitudine filamentorum, apicibus recurvis.

M. foliis expansis cylindricis obtusissimis papulosis, ramis effusis, staminibus expansis purpurascentibus. *brevifolium.* 202.
α. Foliis brevissimis, ramis divaricatis et sæpe decumbentibus.
M. brevifolium Haworth's Mesemb. no. 87. *p.* 274.
HABITAT Cap. Bon. Sp. ♄.
FLORET infrequens Jul.—Oct. A. M.
* *β.* caule erecto ramis patentibus, foliis longioribus, petalis spatulato-linearibus profunde rubicundis vel purpureis.
Forte species distincta ab *α*, magis erecta, ramulis magis compactis et numerosioribus minus divaricatis. *Folia* longiora tenuiora numerosiora minus papulosa. Membranæ calycinæ purpurascentes. *Corolla* mediocris vel parvula pulcherrima profunde et vivacissime rubicunda.

************ HIS-

************* HISPIDA. *Ramulis vel foliis vel apicibus foliorum plus minusve hispidis.*

† HISPICAULIA. *Caulibus pedunculisque hispidis, foliis nudis papulosis.*

hispidum. 203. M. foliis cylindricis obtusis, calyceque glabro obconico papulosis, staminibus pistillis longioribus.
M. hispidum Haworth's Mesemb. no. 88. *p.* 277.—*Willd. Sp. Pl.* 2. 1044.—*Linn. Hort. Clif.* 217. 7.—*M. hispidum A. purpureum, floribus purpureis, Plantes Grasses, page* 66. *cum icone mala ex planta magis antiqua.*—*M. hispidum Mill. Dic. ed.* 8. *no.* 15.—*M. papulosum micans flore saturanter purpureo, Dill. Elth.* 289. *t.* 214. *f.* 278.—*Ficoides afra fruticosa caule lanuginoso, folio tereti parvo brevi, guttato, flore violaceo, Boerh. Ind. Alt. f.* 1. *p.* 291.—*Raj. Hist. Pl.* 3. 366. 20.
HABITAT Cap. Bon. Sp. ♄.
FLORET Mai.—Oct. A. M. copiosissime.
DESCRIPTIO. *Rami* erecti vel subinde subdecumbentes. *Petala* profunde rubicunda pulcherrima. *Filamenta* longa valde expansa effusa et rubicunda, pistillis erectis multo longiora, basi villis minutis purpurascentibus cohaerentia. *Antheræ* pallidæ tinctura purpurascente. Pili ramulorum respicientes.

floribundum. 204. M. foliis cylindricis obtusis papulosis, calyce hæmisphærico papuloso-piloso, staminibus pistillis brevioribus.
M. hispidum pallidum Haworth's Mesemb. p. 279. *et humifusum App.* 11. *p.* 420.—*M. hispidum β. Willd. Sp. Pl.* 2. 1044.——*Linn. Hort. Clif.* 217. 7. *α.*—*M. pilosum micans flore purpureo pallidiore Dill. Elth. t.* 214. *f.* 280.—*Raj. Hist. Pl.* 3. 366. 19.
HABITAT Cap. Bon. Sp. ♄.
FLORET Mai.—Oct. A. M. copiosissime.
DESCRIPTIO. Præcedenti valde affinis, sed distincta. *Suffrutex* decumbens et fere prostratus radice fibrosa. *Caulis* fere pedalis ramis oppositis numerosissimis densis gracilibus teretibus pilis albis brevibus horizontalibus nec respicientibus (ut in præcedente) vestitis. *Folia* fere ut in præcedente, at longiora tenuiora acutiora, supra planiora magis incurvata micis minoribus. *Flores* omnino pallidiores numerosiores, petalis basi albis nec violaceis. *Stamina* alba, stylis valde attenuatis breviora. *Antheræ* albæ. *Pedunculi* teretes æquales

villosi

villosi fere ad lacinias calycinas, foliis sæpe brevioribus; nec foliis semper longioribus, et prope calycem papuloso-glabris et incrassatis ut in *hispido*. *Calyx* hemisphæricus papuloso-pilosus 5-fidus, laciniis æqualibus recurvis extus convexis, interioribus minus membranatis: nec obconicus papuloso-glaber laciniis extus planiusculis membranis majoribus ut in *hispido*. Villi filamentorum albi et majores quam in *hispido*. *Capsula* hemisphærica nec obconica, supra angulis acutis 5 fere stellatis, 5-locularis.

OBS. The mature and exsiccated capsules of many, and probably of all *Mesembryanthema*, but of this species in particular, possess, in a very lively manner, the properties of an Hygrometer. In showery weather in autumn I have seen them expand, and contract themselves again several times in the course of a day. When expanded they have a pretty, but very unusual appearance; and resemble considerably the flowers of a *Stapelia*; but their segments are more obtuse. If the dried capsules are well moistened with water, or any other fluid of equal tenuity, they will unfold themselves in the course of a very few minutes; and when dried again, they will spontaneously close up. The cause of this unusual sensibility, on the access of humidity or drought, is exceedingly interesting, and but little understood. In order to make it intelligible, I must first beg leave to explain the interior structure of the valves of the capsule, or indeed of all its inner parts; for upon their conformation depend entirely the abovementioned motions. In the centre of the mature exsiccated capsules, when expanded, are seen 5 concave obcordated, and somewhat trapeziform membranes; which are in close contact, and form the figure of a rose, that stretches horizontally, in the manner of an awning, over (but not in contact with) the ripe seeds, which appear to lie loose beneath it, in their proper cells; but are in this state very easily dislodged by the slightest force. The 5 segments of the expanded capsules, on their interior surfaces, are each *bisecurrigerous*: that is, each of the segments is furnished with two parallel (but at their points divaricating) hatchet-shaped callosities or springs, which are of a brunneous colour, inclining to ferruginous at the points, and are attached longitudinally, but edgeways, to the capsular segments: their bases are inserted into the obcordated bases of the abovementioned central membranes; and their apices are each joined to another membrane, nearly of a semilunar shape, which (standing up perpendicularly

dicularly in the centre of the capsular segments) surrounds the exterior and most erect part of their apices, and then unites them to the apices of the capsular segments. The semilunated membranes are themselves united at their tips: they stand up nearly erect, and form a pellucid connecting arch between the two hatchet-shaped springs, and enable them to dilate and contract in perfect unison. This membranous arch from spring to spring, stands up almost perpendicularly, and nearly central on the capsular segments, and forms a very interesting appearance. Through the arch may be seen in profile (for it stretches over a perfect vacuity) the different parts above described.

Now upon the dilatation and contraction of their hatchet-shaped springs, entirely depend the opening and closing of the capsules of *M. floribundum*. The springs being perfect and lively Hygrometers are affected by the access of humidity and drought. In wet weather their component parts are dilated and extended; in dry, they are tightened and contracted. When the springs are dilated, they forcibly push open the segments of the capsule, in an horizontal manner; but when they are contracted, they draw them up and close with an equal force, and this often more than once (and that naturally) in the course of the same day.

OBS. 2. In every stage of these extraordinary occurrences, I behold and contemplate the wise contrivances of an *omnipresent* CREATOR. These humble vegetables are hereby enabled to sow their seeds, at that moment of time which is unquestionably the most proper for them; that is, when the sandy deserts of their nativity are moistened with the seasonable blessings of rain, which not only assists in expelling the seeds from their expanded lodgements, but absolutely *imbeds* them in a soil prepared for their reception.

O JEHOVAH,
Quam ampla sunt tua opera!
Quam sapienter ea fecisti!
Quam plena est Terra possessione Tua!
Psalm. 104. 24.

hirtellum. 205. M. foliis confertis cylindricis obtusissimis crystallino-papulosis, calyce turbinato papuloso-piloso, staminibus longitudine pistillorum.

M. hirtellum Haworth's Mesemb. no. 90. p. 284: exclusis synonymis.

HABITAT

HABITAT Cap. Bon. Sp. ♄.
FLORET Mai.—Oct. A. M.
DESCRIPTIO. Affinis præcedenti, at abunde distincta. *Rami* minus depressi vel prostrati. *Folia* paulo longiora, triplo crassiora vel ultra, obtusiora magisque crystallina. *Pedunculi* longiores crassiores pauciores. *Calyx* turbinatus nec hemisphæricus magis papuloso-pilosus, duploque major. *Petala* longiora plus duplo latiora obtusiora, cuneato-linearia, magis emarginata pallidiora, hilariter rubicunda basi læte alba. *Filamenta* alba longitudine pistillorum, nec breviora ut in præcedente, vel longiora ut in *hispido*. *Capsula* minus angulata quam in præcedentibus.

M. foliis subulatis subcylindricis, calycibus lanuginosis, staminibus collectis longitudine pistillorum. *striatum.* 206.
M. striatum Haworth's Mesemb. no. 89. *p.* 280.—*Willd. Sp. Pl.* 2. 1045.—*Linn. Hort. Clif.* 217. 7. β.—*M. pilosum micans flore purpureo striato, Dill. Elth. t.* 215. *f.* 281.—*Brad. Succ.* 4. *p.* 13. *t.* 35. *excluso synonymo Boerhaavii quod ad M. coccineum pertinet.*—*Raj. Hist. Pl.* 3. 364. 5. ?
HABITAT Cap. Bon. Sp. ♄.
FLORET Mai.—Oct. A. M. copiose.
DESCRIPTIO. Præcedentibus primo intuitu dignoscitur calyce lanuginoso staminibusque collectis nec effusis. *Petala* primo albida sive argentea, nervo centrali rubicundo, demum rosea nervo ruberrimo, extus semper pallidiora ut in tribus præcedentibus.

†† HISPIFOLIA. *Foliis undique plus minusve hispidis, caulibus sæpius nudis.*

M. foliis oblongo-ovatis subtriquetris, laciniis calycinis valde inæqualibus hispidis longitudine petalorum. *echinatum.* 207.
α. Corollis luteis, foliis oblongis subtriquetris luteo-viridibus calycibusque valde hispidis.
β. Corollis albis, foliis ovatis subtriquetris omnino viridibus calycibusque hispidis nudisque.
M. echinatum Haworth's Mesemb. no. 91. *p.* 288.—*Willd. Sp. Pl.* 2. 1042.—*Plantes Grasses, page* 24. *cum icone.*
HABITAT Cap. Bon. Sp. ♄.
FLORET Mai. Oct. A. M.
OBS. The leaves are longer and less gibbous, and yellower and more hispid with subulate white hairs in α, than in β.

In the latter they are often almost semiglobose, and perfectly destitute of hairs, but furnished with numerous equidistant round shagreen-like tubercles, from which the hairs in the hairy leaves always arise. The branches are studded thick with similar, but smaller and less round, more white and pearly, unequal sized, and irregularly placed tubercles; some of which occasionally, but very rarely, are also terminated in similar subulate hairs. All these are beautiful objects in a small microscope.

OBS. 2. This species often sows itself and comes up as a weed with me; but this present summer (1803) has been particularly favourable to it; many hundred seedlings having made their appearance under the old plants in the open air, in close contact with each other. They all resemble the parent plants in every respect, and do not vary. Many other species have arisen with me from self-sown seeds; but no one in such profusion as *echinatum*.

††† BARBIFOLIA. *Foliis nudis, apice stellato-barbatis.*

barbatum. 208. M. foliis remotis subovatis supra planiusculis grossis papulosis apice quinqueradiatis, ramulis gracilibus nudis effusis, calyce 5-fido.

α. Foliis semper patentibus, ramulis longioribus, tuberculis quinque atro-viridibus intra florem supra ovarium impositis.

M. barbatum Haworth's Mesemb. no. 92. *p.* 293.—*Plantes Grasses, page* 28. *cum icone.*—*Lamarck Encycl.* 438. 1.—*M. stellatum Mill. Dic. ed.* 8. *no.* 14. *nec stellatum Plantes Grasses, quæ species sequens est.*—*Linn. Hort. Clif.* 216. 5. —*Linn. Hort. Ups.* 127. 1.—*M. radiatum ramulis prolixis recumbentibus Dill. Elth. t.* 194. *f.* 234.—*Ficoides capensis frutescens folio tumido extremitate stellata flore purpureo, Brad. Succ.* 1. *p.* 6. *t.* 5. *nec t.* 15. *quæ citata est Cl. Willd. nam bene respondet ad sequentem statura tota pilisque pedunculorum.*—*Ficoides capensis teretifolia, apicibus hirtis, Pet. Gaz. t.* 77. *f.* 9. *mala.*

* *β.* Foliis foliolisque calycinis sæpius horizontalibus, ramulis brevioribus tuberculis atroviridibus intra florem valde numerosis, in circulo non interrupto supra ovarium impositis.

M. barbatum Curt. Bot. Magaz. t. 70.

HABITAT Cap. Bon. Sp.

FLORET Mai.—Oct. A. M.

OBS. This variety sows itself plentifully, and comes up as a

 weed

weed with me. The leaves spread more and are often more crowded in α, than in β; the tubercles on the germ in α, form an interrupted circle round the germ: they are in 5 divisions, each containing about 3 contiguous tubercles. In β they are more numerous and quite contiguous, forming an uninterrupted circle. Var. β. was obligingly communicated to me by my friend Mr. Howard of Kingsland.

M. subacaule, foliis cæspitosis canis semiteretibus grossis papuloso-scabris apice multiradiatis, basi ciliatis; ramulis grossis, pedunculis calycibusque 6—8-fidis hirsutis. *hirsutum.* 209.

M. hirsutum Haworth's Mesemb. no. 93. *p.* 297.—*M. barbatum* β. *Willd. Sp. Pl.* 2. 1045.—*M. stellatum Plantes Grasses, page* 29. *cum icone, sed confusum est cum sequente, excluso synonymo Milleri no.* 14. *quod ad præcedentem sine dubio pertinet.*—*M. barbatum Mill. Dic. ed.* 8. *no.* 13.—*Linn. Hort. Clif.* 216. 5. *a.*—*Linn. Hort. Ups.* 127. 1. β.—*M. radiatum humile foliis minoribus Dill. Elth.* 190. *f.* 235.—*Ficoides capensis humilis folio tereti pilis in extremitate stellatis flore purpureo, Brad. Succ.* 2. *t.* 6. *f.* 15.—*Ficoides seu Ficus aizoides africana folio variegato aspero ad apicem stella spinosa ornata flore violaceo Boerh. Ind. Alt. p.* 191. 11.

HABITAT Cap. Bon. Sp. ♄.

FLORET Jun. Oct. rarissime A. M.

OBS. A præcedente hæc species valde distincta est. Multum miror quod Botanici unquam dubitaverunt an hæ species distinctæ an varietates sunt; duæ individuæ in eadem divisione ordinis systematici, tam diversæ tam distinctæ, numero characterum essentialium, hoc genus numerosissimum non producit, quam *barbato* et *hirsuto.*

M. subacaule foliis densissime cæspitosis semiteretibus papulosis apice multiradiatis basi subciliatis virescentibus, pedunculis calycibusque 6-fidis hirsutissimis. *densum.* 210.

M. densum Haworth's Mesemb. no. 94. *p.* 302.—*M. barbatum* γ. *Willd. Sp. Pl.* 2. 1046.—*Linn. Hort. Clif.* 216. 5. β.—*Linn. Hort. Ups.* 217. 1. β.—*M. radiatum humile foliis majoribus Dill. Elth. t.* 190. *f.* 236. *sine floribus qui rarissimi sunt.*—*Ficoides seu Ficus aizoides africana folio variegato aspero ad apicem stella spinosa Boerh. Ind. Alt.* 291. 12.

HABITAT Cap. Bon. Sp. ♃.

FLORET Mai. A. M. rarissime.

OBS. Præcedenti affinis at satis distincta: duplo major et

duplo humilior, magis virescens minusque scabrosa. *Flores* semel tantum vidi majusculos et pulcherrime rubicundos.

ADDENDUM.

subulatum. 211. M. acaule foliis subulatis triquetris dorso superne serratis.
M. subulatum Mill. Dic. ed. 8. *no.* 10.—*Haworth's Mesemb.* 142. *no.* 26.
HABITAT ....
FLORET ....
OBS. I have not yet seen this species. It should follow *denticulatum* in this arrangement.

DISSERTATIO SECUNDA;

CONTAINING

A BOTANICAL DESCRIPTION,

AND

HISTORICAL ACCOUNT,

OF THE

GENUS TETRAGONIA.

TO

R. WHITLEY, ESQ.

NURSERYMAN AT BROMPTON,

WHO HAS OFTEN SENT TO ME SELECT SPECIMENS OF

RARE PLANTS,

THE FOLLOWING DISSERTATION

ON THE

GENUS TETRAGONIA

IS INSCRIBED,

AS A

TESTIMONY OF GRATITUDE AND RESPECT,

BY

THE AUTHOR.

A *grateful* mind
By owing owes not, but still pays.
MILTON.

PREFACE.

The first account I have found of any of the plants which appertain to the Linnæan Genus *Tetragonia,* is in the second part of Commeline's *Hortus Amstelodamensis*; under the generical appellation of *Tetragonocarpos.* On plate 103 of that work is figured *T. fruticosa,* and on plate 102 an aged plant of *T. herbacea* with its singular strumous root.

Tetra-Geno-Carpos, as Linnæus in *Hortus Cliffortianus* well observes in page 108, is truly a *Vocabulum sesquipedale*; and he has therefore, in the work just mentioned, very laudably abridged it to *Tetragonia,* saying *Tetragonia est Vocabulum Theophrasti.*

Pluckenet in his *Amaltheum Botanicum,* page 200, gives to a *Tetragonia* resembling, but not the same as *T. fruticosa,* the generical name of *Tetrapteris* (*a*); which is perhaps still more characteristic than that of *Tetragonia.* All those terms very powerfully allude to the quadrangular and often alated figure of the young *Drupæ,* or seed-vessels, in the constituent species of this natural Genus of plants.

(*a*) Pluckenet gives this name, as a generical one, to this *Tetragonia,* which is unnoticed both by Thunberg and Willdenow. But I have applied it as a specific one; not only because I am an advocate for preserving, as far as may be, the now discarded, but once established names of Genera: but because the name itself is remarkably appropriate.

The

The *Tetragoniæ* are closely allied to the Genus *Mesembryanthemum*. The casual acquisition of a new species of *Tetragonia*, (along with some new *Mesembryanthema*,) was the primary cause of my examining its affinities in any particular manner. With *Mesembryanthemum* they constitute the first division of the order Ficoideæ, in Jussieu's celebrated *Ordines Naturales Plantarum*; no other Genus, in the estimation of that celebrated Botanist, being sufficiently allied to those Genera, to arrange in the same subdivision: although, in my humble opinion, those of *Haloragis* and *Aizoon* possess very ample claims to associate with them.

The individuals which compose the Genus *Tetragonia* are neither numerous, ill-defined, or ill-understood; neither are they remarkable for fragrance, beauty, elegance, or any useful application hitherto discovered. They are all, except the Australasian *T. expansa*, and the Peruvian *T. crystallina*, natives of the Cape of Good Hope: their branches (except in the annual *T. echinata* and *T. crystallina*) are slightly shrubby and angulated; their leaves are alternate, expanded, or reflected; entire, and slightly succulent and papulose; and they have no *petals*; but the quadrifid *calyx* is always of a yellow colour within, and green and papulose without. Their seed-vessel is an alated carnose *Drupa*, of several osseous cells, with a single seed in each. They require the protection of a greenhouse to keep them alive in this country in the winter season, and the common treatment of Cape Succulents in summer; during the greatest part of which, their trailing branches are loaded with flowers; which are quickly succeeded by their fleshy and alated *Drupæ*.

It is the business of this essay to investigate the *Tetragoniæ* botanically; to collect and arrange all their synonyma, as far as I have had an opportunity of examining them; to give their *loci natales*; and lastly, to describe them minutely in a technical manner.

One

One species only, which after Pluckenet I have called *Tetrapteris*, (from the four ample wings of the seed-vessel) making his generic name my specific one, as abovementioned, am I able to add to those already enumerated by Thunberg and Willdenow, which are eight in number. I possess them all alive in my own collection, except *T. spicata* and *T. hirsuta*, the last of which I have not yet beheld, either in a living or dried state; but the former I have recently seen alive in his Majesty's extensive collection at Kew.

The *Tetragonia Ivæfolia* of *Supplementum Plantarum*, (now established as a Genus by the name of *Haloragis*, but likewise known by that of *Cercodia*;) formerly ranked as a species of this Genus; but was very properly removed from it, on account of its having petals, a dry, not carnose drupa, and other characters.

The *Tetragonia halimifolia* of Forster's *Florulæ Insularum Australium Prodromus*, which is the *T. expansa* of other authors (*a*), Professor Pallas in the *Hort. Demidof.* has thought proper to separate from the rest of the Genus, under the appellation of *Demidovia Tetragonoides*. But this alteration is not here adopted, because I have not found the characters of that species to vary *essentially* from the generical characteristics of the other *Tetragoniæ*.

Botanical authors appear to have differed from each other in a very extraordinary manner, concerning the *generical* names of these plants; so much so indeed, that I do not think there is another Genus existing of so small an extent, which has had so many *generical* appellations invented for, and applied to it, as the Genus *Tetragonia*. All the following have been used for

(*a*) I know this to be so, having had the satisfaction of comparing Forster's original specimens of his *T. halimifolia* (named in his own hand-writing) now in the possession of A. B. Lambert, Esq. with my own living specimens of *T. expansa*.

some or other of its species, which are as numerous, within one, as the species themselves.

1. TETRAGONIA. Linn.
2. TETRAGONOCARPOS. Commeline.
3. TETRAPTERIS. Pluckenet.
4. DEMIDOVIA. Pallas.
5. CERCODIA. Gærtner.
6. HALORAGIS. Forster.
7. TITHIMALO-NISSOLIA. Magnol.
8. EVONYMO-AFFINIS. Seba.

Although there are only nine species of *Tetragonia* known, it was thought adviseable to divide them into two sections; viz. *Sessiles* and *Pedunculatæ*, from the circumstances of their producing *sessile*, or *pedunculated* flowers. But it is highly probable that better divisions might have been constructed, from the outline formed by the angles of their *Drupæ*, which are intire in some species, and bluntly aculeated, or dentated, in others: they might have been called *Armatæ* and *Inermes*. This mode, in all probability, would have been preferred to the present one, had I possessed a complete knowledge of the *Drupæ* of all the species of the Genus, which unfortunately is not the case.

I shall now conclude this preface, and proceed to the enumeration of the species of *Tetragonia*, first giving, according to my custom, a list of authors cited and abbreviations used.

Little Chelsea,
July 1803.

AUC-

AUCTORES *in hac Dissertatione citati.*

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4. *Com. Hort. Amst.* Horti Medici Amstelodamensis, &c. Auctore Casparo Commelino, M. D. Amstelodami, 1701. Fol.
5. *Forst. Prod.* Florulæ Insularum Australium Prodromus. Auctore Georgio Forster. Gottingæ, 1786. 8vo.
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14. *L'Heritier Stirp. Nov.* Stirpes Novæ aut minus cognitæ. Illustravit Carolus-Ludovicus L'Heritier. Parisiis, 1784. Fol.
15. *Mill. Dic.* The Gardener's Dictionary, &c. by Philip Miller. The eighth Edition. London, 1768. Fol.
16. *Pallas Hort. Demidof.* Enumeratio Plantarum quæ in Horto Viri illustris atque excell. Domini Procopii a Demidof. &c. Moscuæ vigent, recensente P. S. Pallas. Petropoli, 1781. 8vo.

17. *Plantes Grasses* de P. J. Redouté, Peintre du Muséum National d'Histoire Naturelle, décrites par A. P. Decandolle, Membre de la Société des Sciences Naturelles de Genève, &c. Paris. 4to.
18. *Pluck. Amalth.* Leonardi Pluckenetii Amaltheum Botanicum. Londini, 1705. 4to.
19. *Scopol. Insub.* Deliciæ Floræ et Faunæ Insubricæ, &c. Descripsit, et ære incidi curavit, Joannes Antonius Scopoli. Ticini, 1786. Fol.
20. *Seba Thes.* Sebæ Thesaurus locupletissimus Rerum Naturalium. Amst. 1734. 4 vols. Fol.
21. *Thunb. Fl. Jap.* Caroli Petri Thunberg Flora Japonica, &c. Lipsiæ, 1784. 8vo.
22. *Thunb. in Linn. Tr.* Transactions of the Linnæan Society of London. London. 1794. Vol. 2. 4to.
23. *Uster's Jus. Gen.* Antonii Laurentii de Jussieu Genera Plantarum secundum Ordines Naturales disposita. Recudi curavit Notisque auxit Paulus Usterus. Turici Helvetorum, 1791. 8vo.
24. *Willd. Sp. Pl.* Caroli a Linné Species Plantarum, curante Carolo Ludovico Willdenow. 1797, &c. 8vo.

ABBREVIATIONES *in hoc Opusculo.*

☉. An Annual.
♂. A Biennial.
♃. A Perennial.
♄. A Shrub.
Cap. Bon. Sp. Caput Bonæ Spei. (Cape of Good Hope).

TETRA-

TETRAGONIA.

Linn. Gen. Pl. p. 252. 627.
Uster's Jussieu, p. 352.
Gært. 2. 204. tab. 127.

CLASSIS ET ORDO.

Icosandria Pentagynia.

CHARACTER GENERICUS.

Calyx *Perianthium* 4—5-partitum, foliolis inæqualibus subovatis, obtusis, subcarnosis, intus coloratis.
Corolla nulla.
Filamenta numerosa, capillaria, calyce vix breviora. *Antheræ* oblongæ, incumbentes, lineâ exaratæ, et utrinque emarginatæ.
Pistillum *Germen* inferum, carnosum, quadrangulare. *Styli* 2—5, grossi, obtusi, recurvi, longitudine filamentorum. *Stigmata* inconspicua vel nulla.
Pericarpium Drupa non dehiscens, carnosa, angulata, vel alata, angulis sæpius 4, angulis minoribus interjectis.
Nux unica, ossea, 3—8-locularis.
Semen unicum in singulo loculo Nucis.

CHARACTER ESSENTIALIS.

Calyx superus 4—5-partitus.
Corolla nulla.
Pericarpium nucleo 5—8-loculari.

CHARACTER NATURALIS.

Suffrutices parvuli, semper foliosi, junioribus partibus plus minusve carnosis, et papuloso-micantibus.
Radix, sæpe fibrosa, radiculis incrassatis, et subinde ingens et strumosa, fibris paucioribus.
Caules, valde ramosi teretiusculi, sæpe decumbentes, vel prostrati, sed nunquam reptantes.
Rami, alterni, numerosi, valde foliosi, subconferti, prostrati, seu adscendentes, vel rarius erecti, et lignosiores, obsolete angulati ex decurrentiâ foliorum.

Folia

Folia, alterna, decurrentia, sæpe breviter petiolata et glabra; rarius sessilia vel hirta; senecta reflexa, juniora patula, integra, plana, enervia, carnosa, viridia, papulosa, præcipue subtus, marginibus plus minusve revolutis.
Flores, diurni, sæpe axillares, subinde racemosi, terminales; *pedunculis* ebracteatis, sæpe ternatis, inæqualibus, brevibus, filiformibus: vel subinde sessiles, et solitarii.
Calyx, 4—5-partitus, foliolis subcarnosis inæqualibus, late ovatis, valde obtusis, extus papuloso-micantibus, viridibus, intus luteis, sole patulis, mane, vespere, et nocte clausis.
Corolla, nulla.
Stamina, *Filamenta* numerosa, capillaria, lutea. *Antheræ* incumbentes luteæ, sæpe grossæ, linea longitudinaliter exaratæ, et utrinque emarginatæ.
Pistillum, *Germen* inferum, sæpe quadrangulare, carnosum. *Styli* 2—5 grossi, obtusi, recurvi, intus et apice pubescentes, longitudine filamentorum. *Stigmata* propria nulla.
Drupa, non dehiscens carnosa. *Nux* ossea subovata subangulata 3—8-locularis, semine unico subrotundo in singulo loculo.

CHA-

CHARACTERES SECTIONUM.

* SESSILES. *Floribus axillaribus subsessilibus.*

** PEDUNCULATÆ. *Floribus semper pedunculatis.*

CHARACTERES SPECIERUM.

* SESSILES. *Floribus axillaribus subsessilibus.*

T. foliis ovato-rhombeis, fructibus quadricornibus. *expansa.* 1.
T. expansa Ait. Hort. Kew. 2. 178.—*Scopol. Insub.* 1. *p.* 32. *t.* 14.—*Gmel. Syst. Nat. t.* 2. 843. 6.—*Willd. Sp. Pl.* 2. 1024.—*Thunb. in Linn. Tr. Lond.* 2. *p.* 335.—*Tetragonia halimifolia Forst. Prod. p.* 39.—*Demidovia Tetragonoides, Pallas Hort. Demidof. p.* 150. *t.* 1.—*T. Japonica Thunb. Fl. Jap.* 208.—*T. Japonica Gmel. Syst. Nat. t.* 2. 843. 2.
Habitat in Nova Zeelandia. Banks et Forster: et iterum in Insulis Amicorum. Forster: et etiam in Japonia. Thunberg.
Floret Aug. Sept. ♄.
Descriptio. *Suffrutex* omnibus junioribus partibus papuloso-micantibus. *Radix* fibrosa. *Rami* alterni prostrati subangulati, apicibus adscendentibus. *Folia* alterna subdecurrentia petiolata expansa deltoidea integra carnosa papulosa præcipue in paginis inferioribus, paulo magis nervosa quam in congeneribus. *Flores* solitarii axillares sessiles vel subinde subsessiles. *Calyx* 4-partitus foliolis carnosis inæqualibus subdeltoidibus, intus luteis. *Corolla* nulla. *Germen* turbinatum inferum valde papulosum, post florescentiam apice quadricornutum, grossum obovato-turbinatum. *Filamenta* numerosa capillaria lutescentia calyce breviora. *Antheræ* parvæ luteæ. *Styli* 3—5 breves tenues longitudine filamentorum. *Drupa* carnosa subturbinata quadricornuta. *Nux* ossea 5-locularis, calyce persistente tecta, semine subrotundo in singulo loculo.

T. herbacea, hirsuta, procumbens, foliis ovatis villosis, floribus axillaribus ternis sessilibus. *hirsuta,* 2.
T. hirsuta Linn. Sup. Pl. 258.—*Thunb. Prod.* 87.—*Gmel. Syst. Nat. t.* 2. 843. 4.—*Willd. Sp. Pl.* 2. 1023.
Habitat Cap. Bon. Sp. Thunberg.
Floret ....
Obs. This is the only species in the Genus, hitherto discovered, which I have not examined in a living state.

T. herbacea

crystallina. 3. T. herbacea, pruinosa, foliis ovatis sessilibus, fructibus inermibus, infimis subpedunculatis, supremis sessilibus.
T. crystallina L'Herit. Stirp. Nov. p. 81. *tab.* 39.—*Ait. Hort. Kew.* 2. 178.—*Gmel. Syst. Nat.* 2. 843.—*Willd. Sp. Pl.* 2. 1025.—*Plantes Grasses. page* 34. *cum icone.*
Habitat in Peru. Dombey.
Floret Jun.—Aug. ⊙.
Descriptio. *Radix* fibrosa albicans. *Caulis* herbaceus ramosissimus patulus irregulariter cylindricus viridis, apice pruinosus et pubescens. *Folia* sparsa sessilia ovata integra parumper undulata planiuscula, inferne pruinosa, nervo medio subtus prominente. *Flores* sessiles vel breviter pedicellati solitarii axillares. *Calyx* monophyllus pruinosus viridis, tetragonus, lateribus duobus oppositis majoribus, limbo petaliformi quadrifido, laciniis latis obtusis, externe pubescentibus et viridescentibus, interne flavis. *Corolla* nulla. *Stamina* 15—20. *Filamenta* capillaria lutea limbo paulo breviora. *Antheræ* rotundatæ flavæ biloculares. *Pistillum* ovarium tetragonum, intra calycem, supra viridans pubescens et pruinosum. *Stigmata* 2—4, tenuia brevia flava subdivergentia, staminibus æqualia. *Pericarpium*, Nux tetragona ossea intra calycem persistentem tecta, unilocularis, loculo quadrilobo. *L'Herit. Stirp.* l. c.

** PEDUNCULATÆ. *Floribus semper pedunculatis.*

fruticosa. 4. T. foliis elliptico-lanceolatis, fructibus obtuse 7—8-angulatis.
T. fruticosa, foliis linearibus Linn. Sp. Pl. 687.—*Linn. Hort. Ups.* 126.—*Linn. Hort. Clif.* 188. 1.—*Mill. Dic. ed.* 8. *no.* 1.—*Ait. Hort. Kew.* 2. 176.—*Gmel. Syst. Nat. t.* 2. 842. 1.—*Thunb. Prod.* 87.—*Willd. Sp. Pl.* 2. 1023.—*Lamarck. Encyc. pl.* 437.—*Gært.* 2. 204. *tab.* 127.—*Evonymo affinis, africana flore luteo, Portulacæ folio, Seba Thes.* 2. *p.* 13. *t.* 11. *f.* 8.—*Tetragonocarpos; africana; fruticans; foliis longis, et angustis, Boerb. Ind.* 278. 7.—*Boerb. Ind. Alt.* 2. 262. 1.—*Com. Hort. Amstel.* 2. 205. *t.* 103.
Habitat Cap. Bon. Sp. *Miller.*
Floret Jul.—Sept. ♄.
Descriptio. *Suffrutex* radice fibrosa. *Rami* alterni erecti adscendentes, vel per ætatem subinde decumbentes, obsolete papulosi et angulati ex decurrentiâ foliorum. *Folia* alterna decurrentia patentia et demum reflexa, brevissime petiolata, elliptica vel lanceolata, vel ovato-lanceolata, carnosa subpa-

pulosa

pulosa enervia, marginibus minute deflexis. *Flores* parvi axillares, sæpe binati, rarius ternati, pedunculis brevibus inæqualibus filiformibus papulosis. *Calyx* quadripartitus foliolis inæqualibus rotundato-ovatis, extus papulosis viridibus, intus luteis. *Corolla* nulla. *Filamenta* numerosa tenuissima lutea, longitudine calycis. *Antheræ* majusculæ luteæ, utraque emarginatæ. *Styli* 3 patentes seu recurvi obtusi, intus ramentacei, longitudine filamentorum. *Germen* inferum subrotundum papulosum. *Drupa* valde carnosa subsphæroidea angulis 7—8 obtusissimis. *Nux* ossea 3—4-locularis, semine unico in singulo loculo.

T. fruticosa, pruinosa, foliis obovatis, pistillis duobus, fructibus alatis. *decumbens.* 5.

Tetragonia decumbens foliis ovatis integris caule fruticoso decumbente Mill. Dic. ed. 8.—*Tetragonia* β. *Linn. Hort. Clif.* 188. —*T. decumbens Ait. Hort. Kew.* 2. 177.—*Willd. Sp. Pl.* 2. 1023.—*Plantes Grasses, page* 23. *cum icone.*—*Tetragonocarpos afra, folio Portulaccæ longo, flore herbaceo. Boer. Ind. Alt.* 2. 262. 3.

HABITAT Cap. Bon. Sp. Miller.

FLORET Jul.—Sept. ♄.

DESCRIPTIO. *Suffrutex*, radice fibrosa. *Caulis* ramosus decumbens. *Rami* et ramuli decumbentes effusi teretiusculi, apicibus adscendentibus papuloso-pilosis. *Folia*, patentia, seniora reflexa alterna subdecurrentia obovata integra, basi attenuata amplexicaulia carnosa enervia pruinosa marginibus subrevolutis. *Flores* axillares tri- vel quadrinati, pedunculis inæqualibus brevibus filiformibus pruinosis. *Calyx* profundissime quadrifidus, foliolis primo incurvis, dein patulis, orbiculato-ovatis seu ovatis, extus pruinosis, intus luteis et striatis. *Corolla* nulla. *Stamina* ut in præcedente. *Styli* duo recurvi grossi et obtusi intus et apice pubescentes. *Germen* inferum turbinatum quadrangulare pruinosum. *Drupa* carnosa quadrialata, alis 4 minoribus interjectis. *Nux* ossea quadrilocularis calyce persistente tecta, semine unico in singulo loculo.

T. fruticosa, foliis sessilibus lanceolatis subdecurrentibus, alis druparum 8, alterne diminutis. *Tetrapteris.* 6.

Tetrapteris frutex africanus Linariæ folio crassiore, fructu quadripinnato quaternis membranaceis extantibus alis, donato, Pluck. Amalth. p. 200.—*Tetragonia* α. *Linn. Hort. Clif.* 188.—*Tetragonocarpos; præcedenti similis; fructu rotundo tetragono umbilicato. Boerh. Ind. Alt.* 2. 262. 2.

HABITAT Cap. Bon. Sp.
FLORET Jul.—Sept. ♄.
DESCRIPTIO. *Suffrutex* radice fibrosa, fibris sæpe incrassatis. *Caulis* ramosus decumbens. *Rami* et ramuli effusi decumbentes apicibus adscendentibus, obsolete quadranguli, ex decursione foliorum. *Folia* alterna sessilia subdecurrentia lanceolata obtusa carnosa pallide viridia, internodiis longiora, paginâ inferiore minute papulosâ præcipue ad costam. *Flores* subracemosi subterminales pedunculati. *Racemi* multiflori. *Pedunculi* solitarii longissimi hujus generis, filiformes papulosi, floriferi erecto-patentes, fructiferi penduli, inferiores axillares, superiores bracteâ tuberculiformi instructi. *Calyx* inapertus quadratus papulosus, apertus profunde quadrifidus, supremus sæpe quinquefidus, foliolis late ovatis extus viridibus margine luteo, intus omnino hilariter luteis. *Corolla* nulla. *Filamenta* pergracilia brevia valde numerosa erecto-patentia saturate lutea. *Antheræ* luteæ at pallidiores et utrinque emarginatæ. *Styli* 3 lutescentes longitudine filamentorum. *Germen* inferum tetragonum. *Drupa* subcarnosa, alis 8, quatuor maximis semiorbiculatis submembranaceis, quatuor fere obliteratis. *Nux* oblonga ossea trilocularis calyce persistente tecta, semine unico pyriforme in singulo loculo.

spicata. 7. T. glabra, subherbacea, erecta, foliis inferioribus ovatis, supremis lanceolatis glabris, floribus racemosis.
T. spicata Linn. Supp. Pl. 258.—*Thunb. Prod.* 87.—*Gmel Syst. Nat. t.* 2. 843. 5.—*Willd. Sp. Pl.* 2. 1024.
HABITAT Cap. Bon. Sp.
FLORET Jul. ♄.
OBS. Exemplaria non possideo pro descriptione; at semel vidi crescentia in Horto celeberrimo regio Kewense.

herbacea. 8. T. herbacea, lævis, foliis ovatis petiolatis, fructibus alatis, radice strumosa.
T. herbacea Linn. Sp. Pl. 687.—*Tetragonia γ. Linn. Hort. Clif.* 188.—*T. herbacea Mill. Dic. ed.* 8. *no.* 3.—*Gmel. Syst. Nat. t.* 2. 843. 3.—*Willd. Sp. Pl.* 2. 1023.—*Thunb. Prod.* 87.—*Tetragonocarpos afri. radice magna crassa et carnosa, Com. Hort. Amst. p.* 203. *t.* 102.
HABITAT Cap. Bon. Sp. Miller.
FLORET Aug. Sept. ♄.
DESCRIPTIO. *Radix* tuberosa; per ætate magna. *Caules* et ramuli alterni subherbacei angulati prostrati virides, angulis pubescentibus. *Folia* alterna, spatulato-ovata integra

carnosa avenia minutissime punctulata, marginibus pubescentibus, petiolis mediocribus et obsolete decurrentibus; inde angulatio ramulorum. *Flores* axillares solitarii pedunculis filiformibus pubescentibus, foliis brevioribus. *Calyx* quadripartitus laciniis subovatis, extus viridibus, marginibus paginisque superioribus læte-luteis. *Stamina* numerosa, filamentis patentibus, antherisque luteis. *Germen* tetragonum inferum. *Styli* 4 robustuli obtusi patuli extus virides, intus et apice lutei, longitudine filamentorum. *Drupa* exacte tetragona quadrilocularis, angulis pubescentibus. Drupam maturam non possideo.

M. herbacea, foliis rhombeo-ovatis, fructibus echinatis. *echinata.* 9.
T. echinata Ait. Hort. Kew. 2. 177.—*Gmel. Syst. Nat.* 2. 843. 7.—*Willd. Sp. Pl.* 2. 1024.
HABITAT Cap. Bon. Sp. Masson.
FLORET Mai.—Aug. ♂.
DESCRIPTIO. *Radix* fibrosa annua. *Caules* decumbentes angulati, subinde aliquo ramentacei. *Folia* distantia alterna longius petiolata rhombea plana adscendentia viridia, ad lucem subinde punctata; basi valde attenuata. *Flores* axillares solitarii, pedunculis filiformibus brevissimis instructi. *Flores* (siccos exceptos) nunc non possideo. *Drupa* tetragona, angulis maxime echinato-cristatis, spinulis sæpe interjectis. *Nux* ossea trilocularis calyce persistente tecta, semine unico majusculo in singulo loculo.

DISSERTATIO TERTIA;

SIVE

ENUMERATIO PLANTARUM

GENERIS

PORTULACCÆ,

SYNONYMIS, LOCIS, DESCRIPTIONIBUSQUE.

« Polymorphum valde est Portulaccæ Genus quoad fructificationem et numerum partium. Si itaque una separaretur species, separandæ etiam plures."——*Linn. Sup. Pl.* 248.

TO THE MEMORY

OF

THAT ADMIRABLE BOTANIST

CAR. LUD. L'HERITIER,

WHO WAS UNHAPPILY ASSASSINATED NEAR HIS OWN HOUSE,

THE FOLLOWING DISSERTATION

ON THE

GENUS PORTULACCA,

IS INSCRIBED

WITH PROFOUND RESPECT

BY

THE AUTHOR.

O sight
Of terror, foul and ugly to behold!
Horrid to think, how horrible to feel!

MILTON.

PREFACE.

The Linnæan Genus *Portulacca* has been divided, but I am inclined to think not so properly as it might have been, by Jussieu and others, into two genera. Be this as it may, I prefer keeping the original genus entire until we well know the fructification of all its species; and am a declared enemy to the multiplication of generical appellations, where there is not an absolute necessity for them.

Professor Willdenow in his new edition of *Species Plantarum*, retains the name *Portulacca*, to those species of the genus only, which have a *Capsula* 1-*locularis*, *circumscissa*, and the remainder of the genus he separates from them, under the generical name *Talinum*; on account of their possessing, as he conceives, a *Capsula* 3-*valvis*, and *Semina arillata*.

But I am afraid those characters are either inconstant, or (amongst these plants) insufficient to establish any generical distinctions; because their fructifications are confessedly more than usually variable: and in this opinion I have the happiness to be supported by the younger Linnæus, (although it was adopted, and absolutely written in this preface, before I saw it in his work) who says in *Supp. Pl. p.* 248. under the article *Portulacca meridiana*; "Genus novum ex hac constituit b. m. Parem et Meridiam vocavit; at differentia non tanta mihi visa, quin cum Portulacca combinari posset, consentiente affinitate. Polymorphum valde est Portulaccæ genus quoad fructificationem et numerum partium. Si itaque una separaretur species, separandæ etiam plures."

Indeed this Genus, like that which was the subject of my last Dissertation, has had a very unusual number of generical appellations, in proportion to the number of its component species; which is undoubtedly owing to their abovementioned great, but inconstant diversity, in the parts of fructification.

No fewer than the following generical names have been given to some or other of them by the following Botanists.

1. PORTULACCA. Linnæus.
2. ANACAMPSEROS. Linnæus.
3. TALINUM. Jussieu.
4. HALIMUS. Brown.
5. RÜLINGIA. Ehrhart.
6. ORYGIA. Forskal.
7. CHAMÆCISTUS. Herman.
8. HELIANTHEMUM. Plumier.
9. PORTULACASTRUM. Dillenius.
10. PORTULACCÆ FACIE. Sloane;
11. OXALIS AFFINIS. Burman.

The species of *Portulacca* which I have hitherto had any opportunity of examining, are but few in number. They are *Portulacca oleracea*, *P. sativa*, *P. crassifolia*, *P. patens*, *P. reflexa*, *P. paniculata*, *P. pilosa*, and *P. anacampseros*; and four new gibbous-leaved species closely allied to it; which four species were the primary cause of my studying and investigating this family of plants.

Now the *capsula trivalvis* really does not exist in the four nondescript relatives of *P. anacampseros*. They have a slender conical *unilocular capsule of 5 or 6 deciduous valves*, which separate from each other in a spiral manner, beginning at the base. Their capsule is covered by a membranous *calyptra* (with a lobated recurving base) which is forced off by the spiral expansion of the capsular valves, and then discovers an *arillus*, (enclosing the ripe seeds) composed of 5 or 6 lanceolate hollowed membranous valves, coarsely striated like the root-coats of an *Ixia*; and their seeds are fixed by filaments to a central axis, and are more or less triquetrous, and alated with a very fine white membrane. The arillus and alated seeds, I do not recollect in any of Willdenow's *Portulaccæ*.

But the circumstance of the seeds being arillated, or not arillated,

arillated, cannot alone, I apprehend, be allowed to constitute any solid and permanent generical distinction; because in some instances, this very character is not allowed by Willdenow himself, to form even a specific distinction; particularly in the genus *Hordeum*, where he gives (*Sp. Pl.* 1.472) *Hordeum vulgare β.* only as a variety of *Hordeum vulgare,* and yet he makes the latter to have *corticated,* that is *arillated* seeds, and the former to have *decorticated,* that is *dearillated* seeds (*a*).

Therefore I have *at present* (*b*) kept the original genus *Portulacca* entire as a genus, but have placed its constituent species under two sections; one of which I have called *Arillatæ* (seminibus arillatis), the other *Dearillatæ* (seminibus nudis); and the latter of these I have divided into *Latifoliæ* (foliis latioribus), and *Angustifoliæ* (foliis linearibus). The section *Arillatæ* I have also placed under two divisions; the first I have called *Planæ* (foliis planis), and the second *Gibbæ* (foliis subtus maxime gibbis). Further than this it has not been thought necessary to divide.

(*a*) An *arillus* is nothing more than a sort of second coat or covering to a seed. Professor Martyn, in his very useful work called the *Language of Botany*, thus defines an *arillus.* "The outer coat of a seed falling off spontaneously, or inclosing the seed partially;" and says Scopoli has distinguished such fruits by the name of *Thecæ.*

(*b*) But it is probable these plants will hereafter be divided into four or more genera. The first with a *Calyx bipartitus,* and *Capsula unilocularis circumscissa,* might remain with *Portulacca.* Those with a *Calyx diphyllus* and *Capsula trivalvis,* might be called *Talinum.* Those with a *Calyx pentaphyllus* might be called *Orygia*; and those with a *Calyx diphyllus* and *Capsula unilocularis,* might be placed under the old Linnæan genus *Anacampseros.*

I have

I have given no synonym without a careful examination; and the new or hitherto unnamed species and varieties, and others which are here elevated from the rank of varieties to that of species, I have, according to my custom, marked with an asterisk.

All the species annually produce abundance of perfect seed, but they have the most fugacious flowers I ever beheld; it is absolutely difficult to catch them while expanded; they remain open but a very short time, and never open but once; and that only to the strong beams of the afternoon sun. However, in this short space the great business of impregnation is accomplished, and the future progeny of the plants thereby effectually secured. The colour of their flowers is either yellow, white, rosy, or rubicund; and they are often beautiful, delicate, and lively.

Little Chelsea,
July, 1803.

AUC-

AUCTORES *in hac Dissertatione citati.*

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5. *Comm. Hort. Amst.* 1. Horti Medici Amstelodamensis, &c. Autore Joanne Commelino. Amstelodami, 1697. Folio.

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9. *Jacq. Americ.* Nicolai Josephi Jacquin, Selectarum Stirpium Americanarum Historia, &c. Vindobonæ, 1763. Folio.

10. *Jacq. Obs.* Nicolai Josephi Jacquin Observationum Botanicarum. Vindobonæ, 1764, &c. Folio.

11. *Linn. Gen. Pl.* Caroli a Linné Genera Plantarum. Editio sexta. Holmiæ, 1764. 8vo.

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13. *Linn. Hort. Ups.* Caroli Linnæi Hortus Upsaliensis. Stockholmiæ, 1748. 8vo.

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17. *Pluck. Amaltb.* Leonardi Plucknetii Amaltheum Botanicum. Londini, 1705. 4to.

18. *Pluck. Almagest.* Almagestum Botanicum, sive Phytographiæ Pluckenetianæ Onomasticon Methodo Synthetica digesta. Londini, 1691. 4to.

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25. *Volck. Fl. Norib.* Flora Noribengensis, Opera et Labore Johannis Georgii Volckameri, M. D. Noribergæ, 1700. 4to.
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ABBREVIATIONES *in hac Dissertatione.*

☉. An Annual.
♂. A Biennial.
♃. A Perennial.
♄. A small Shrub.
Cap. Bon. Sp. Caput Bonæ Spei. (Cape of Good Hope.)

PORTU-

PORTULACCA.

Linn. Gen. Pl. 240. 603.

CLASSIS ET ORDO.

Dodecandria Monogynia.

CHARACTER GENERICUS.

Corolla 4—5-petala,
Calyx profunde 2-partitus, sive 2—5-phyllus.
Capsula 1—5-locularis, polysperma, 1—5-valvis.
Semina nuda, sive plus minusve arillata.

CHARACTER NATURALIS.

Suffructices minimi, vel herbæ, plus minusve succulenti.
Radix fibrosa, et in *Dearillatis* sæpissime annua; in cæteris nunquam.
Caules herbacei, vel minime fruticosi, erecti, seu decumbentes: in *Arillatis Gibbis*, plus minusve pilosi, præcipue ad basin foliorum.
Rami sæpe conferti, in *Arillatis Gibbis*, pilosi, præcipue ad basin foliorum.
Folia glabra plus minusve succulenta, integra, plana, vel sæpe gibba.
Flores sæpius terminales, pedunculati, et rubicundi, rarius lutei; subinde axillares et sessiles.
Calyx bipartitus in *Dearillatis*: 2—5-phyllus in *Arillatis*.
Corolla quinquepetala, vel rarius quadripetala, fugacissima, radiis solaribus tantum aperta.
Capsula 1—5-locularis, polysperma, 1—6-valvis, in *Dearillatis* circumscissa,
Semina sæpe arillata et alata, figurâ variâ.

CHA-

CHARACTERES SECTIONUM.

* DEARILLATÆ. *Calyce bipartito fere ad basin. Capsulâ circumscissâ. Seminibus nudis sine arillo.*

† Latifoliæ. *Foliis latioribus.*

†† Angustifoliæ. *Foliis linearibus.*

** ARILLATÆ. *Seminibus arillatis, câlyce profundè bipartito, vel 2—5-phyllo.*

† Planæ. *Foliis planis.*

†† Gibbæ. *Foliis valde carnosis subtus maxime gibbis, axillis pilosis.*

CHARACTERES SPECIERUM

* DEARILLATÆ. *Calyce bipartito fere ad basin. Capsulâ circumscissâ. Seminibus nudis sine arillo.*

† Latifoliæ. *Foliis latioribus.*

oleracea. P. foliis cuneiformibus, floribus sessilibus, ramulis prostratis.
1. *P. oleracea Linn. Sp. Pl.* 1. 638.—*Linn. Hort. Ups.* 146-7.—*Willd. Sp. Pl.* 1. 859.—*Ait. Hort. Kew.* 2. 127.—*Brown's Jam.* 233.—*Scop. Carn. n.* 564.—*Pollich. Palat. n.* 449.—*Hoffm. Germ.* 161.—*P. foliis cuneiformibus verticillatis sessililus, floribus sessilibus, Hort. Clif.* 207.—*Portulacca sylvestris Lobel. Icon.* 388.—*Portulacca angustifolia sive sylvestris. Baub. Pin.* 288. 2.

Habitat in Europa et Jamaicâ.

Floret Aug. Sept. ⊙.

Obs. Rami et ramuli semper plus minusve decumbentes vel prostrati; sive humi adpressi.

sativa. P. foliis cuneiformibus, floribus sessilibus, caule ramisque sub-
2. erectis.
* *P. oleracea β. Linn. Sp. Pl.* 1. 639.—*Willd. Sp. Pl.* 1. 859.—*P. latifolia sativa Baub. Pin.* 288. 1.—*Portulacca α. Linn. Hort. Clif.* 207.—*P. domestica Lobel. Ic.* 388.

Habitat in America Meridionali.

Floret Aug. Sept. ⊙.

Obs. Simillima præcedenti, attamen distincta videtur: differt in his, staturâ plus duplo majore, ramis ramulisque erectis,

I vel

vel erectiusculis seu patulis, nec prostratis, sive humi plus minusve adpressis, ut in *oleracea*.

* *β*. (*aurea*) foliis summis aureis. (Anglice Golden Purslane.)

P. bracteis quaternis, floribus quadrifidis, caule geniculis pilosis. *quadrifida.* 3.

P. quadrifida Willd. Sp. Pl. 1. 860. *excluso synonymo Hermanni.—Ait. Hort. Kew.* 2. 127.—*Jacq. Collect.* 2. *p.* 356. *t.* 17. *f.* 4.—*P. linifolia Forsk. Ægypt. p.* 92.

Habitat in Ægypto. ☉.

P. foliis ellipticis carnosis planis, geniculis pilosis, floribus sessilibus terminalibus. *meridiana.* 4.

P. meridiana Linn. Sup. Pl. 248. (*excluso synonymo Hermanni*). —*Willd. Sp. Pl.* 1. 861.

Habitat in India Orientali. ☉.

P. foliis oblongis carnosis, caule corymboso, floribus sessilibus. *halimoides.* 5.

P. halimoides Linn. Sp. Pl. 639.—*Willd. Sp. Pl.* 861.—*P. erecta, sedi minoris facie, capitulo tomentoso, Sloane's Jam.* 1. *p.* 205. *tab.* 129. *f.* 3.—*Halimus minimus foliis oblongis succulentis tumentibus, summis ramulis densissime sitis, Brown's Jam.* 206.

Habitat in Jamaica. ☉.

†† Angustifoliæ. *Foliis linearibus.*

P. foliis alternis lineari-lanceolatis, floribus axillaribus terminalibusque. *pilosa.* 6.

P. pilosa Linn. Sp. Pl. 1. 639.—*Ait. Hort. Kew.* 2. 127.—*Mill. Dic. ed.* 8. *no.* 2.—*P. Curassavica angusto longo lucidoque folio, procumbens, floribus rubris, Comm. Hort. Amst.* 1. *p.* 9. *tab.* 5.—*P. Curassavica lanuginosa procumbens, Herman's Par.* 215. *tab.* 215.—*P. lanuginosa procumbens vermiculatæ folio Americana Pluck. Alm.* 304.—*Pluck. Phyt. tab.* 247. *f.* 7. *et tab.* 105. *f.* 5.—*Volck. Norimb.* 341. *tab.* 341.—*Anacampseros supina minor, foliis linearibus turgidis, floribus summis ramulis confertis, Brown's Jam.* 234.

Habitat in America Meridionali. ♂.

Floret Jul. Aug.

Descriptio. Herba biennis vel triennis. *Radix* fibrosa. *Caules* foliosi suberecti, ramis paucioribus oppositis vel alternis teretibus carnosis et obsolete articulatis, axillis foliorum piliferis. Pili axillares fasciculati numerosi flexuosi

 albi,

albi, vix longitudine foliorum. *Folia* alterna sæpe conferta lineari-lanceolata vel linearia utrinque attenuata sed obtusiuscula, carnosa viridia, obsolete ad lucem punctata, subtus convexa. *Flores* numerosi sessiles axillares et terminales in capitulis piliferis, læte rubicundi, radiis solaribus tantum aperti et fugacissimi ut in congeneribus.

Obs. The above description was taken from living specimens, not in a very perfect state, which were sent to me by my friend Mr. James Donn, curator of the Botanic Garden at Cambridge.

Obs. 2. This species has hitherto been marked as an annual by authors, but I conceive erroneously; for Mr. Donn assures me it has survived three years in one of the stoves of the Botanic Garden at Cambridge. Considerable difficulty has occasionally arisen amongst botanists, in discriminating between *annual*, *biennial*, *perennial*, and slightly *shrubby* plants. But however fine the gradations between them may sometimes appear, I do not believe they are imaginary, (as some have rashly asserted) but real; and always uniform in a state of nature; although often variable under the management of art: and even in some instances changeable from one of those states into another. In gardens for instance, late-sown hardy annuals will sometimes become biennial, that is, a winter will intervene between the period of their germination and the time of their producing seeds, after which they always die. On the contrary, plants which are real hardy biennials in their native climates, the gardener often converts into temporary annuals, by sowing them very early in the spring, whereby they are enabled to produce seeds the same year, by which they are so much weakened, as to die in consequence of it the following winter; unless taken into a hot-house, where they will sometimes survive, but with difficulty, two or three years, but never more. If they endured longer they would become small shrubs. Certain plants, natives of warm climates, which are minute shrubs in a state of nature, become strictly annuals if sown in the flower borders of England, but never biennial, not being able to resist the rigours of our winters. *Reseda odorata*, *Nolana prostrata*, *Mesembryanthemum cordifolium*, and others, are striking examples of this kind. They are real hardy annuals in our flower borders; but in our greenhouses, or in their native places, never fail to survive several years, and to become more or less shrubby in their stems and branches. In our climate, therefore, they die of cold; not of age.

These

These kinds of plants are distinguishable from perennials, by the shoots of the latter regularly dying down to the ground after flowering, and not being perennial, as in shrubby plants.

A genuine annual can never in its native country be made to survive two years, and any one accustomed to pay attention to the growth of plants, may readily convince himself of this, by observing the progress of our British annuals. Art may reduce several of Nature's small shrubs to annuals; but can rarely operate contrarywise. No human ingenuity could give biennial or perennial life to an annual chickweed or a groundsel in the place of its nativity.

P. foliis alternis subulatis, axillis caulibusque pilosis, floribus terminalibus sessilibus. *setacea.* 7. *

Portulacca pilosa β. Linn. Sp. Pl. 1. 639.—*Willd. Sp. Pl.* 1. 860.—*Portulacca Corassavica lanuginosa erecta, Herm. Par. Pl.* 214.—*Pluck. Phyt. tab.* 247. *f.* 6. *et tab.* 105. *f.* 4.

HABITAT in America Meridionali. ⊙.

OBS. Præcedenti valde affinis, sed satis differt foliis subulatis et setaceis, nec lanceolatis, vel lineari-lanceolatis, caulibus magis pilosis et denique petalis magis acutis.

** ARILLATÆ. *Seminibus arillatis, calyce profunde bipartito, vel 2—5-phyllo.*

† PLANÆ. *Foliis planis.*

P. foliis planis canaliculatis cuneiformibus emarginatis mucronatis, racemo simplici, pedunculo triquetro. *racemosa.* 8.

P. (*racemosa*) *foliis obovatis planiusculis, racemo simplici triquetro. Linn. Sp. Pl.* 1. *p.* 640.—*P.* (*triangularis*) *pedunculis multifloris triangularibus Jac. Americ.* 147.—*Jacq. Obs.* 1. *p.* 35. *t.* 23.—*Talinum triangulare Willd. Sp. Pl.* 1. 862.—*Chamæcistus Americana, Portulaccæ folio, flore albo, Herm. Parad.* 121. ?—*Helianthemum frutescens, Portulaccæ folio, Plum. Icon. p.* 142. *t.* 150. *f.* 2.

HABITAT in maritimis Americæ.

FLORET Aug. ♄.

P. foliis cuneiformibus, paniculâ terminali, pedunculis trifloris. *cuneifolia.* 9.

P. (*cuneifolia*) *foliis cuneiformibus planis, pedunculis inferioribus racemi trifloris, calycibus diphyllis, Vahl. Symbol.* 1. *p.* 33.—*Orygia* (*Portulaccifolia*) *foliis alternis cuneatis glabris Forsk. Descr.* 103.—*Talinum cuneifolium Willd. Sp. Pl.* 1. 864.

HABITAT

HABITAT in Arabia Felici. ♄.

OBS. Affinis *P. patenti*, dignoscitur ab illa, *pedunculis* crassioribus, *floribus* ternis pedicellatis. *Vahl.* l. c.

OBS. 2. *Calyx* diphyllus. *Corolla* violaceo-rubra. *Capsula* trivalvis. *Willd.* l. c.

paniculata. 10. P. foliis obovatis planis emarginatis, corymbo terminali, calycibus pentaphyllis, caule suffruticoso.

P. paniculata Linn. Sp. Pl. 2. *p.* 640.—*P.* (*fruticosa*) *foliis obovatis, planiusculis, pedunculis racemosis, calycibus pentaphyllis, caule fruticoso, Linn. Syst. Veg. p.* 371.—*Talinum fruticosum Willd. Sp. Pl.* 1. 864.—*P. Americana latifolia erecta, floribus albis, Comm. Hort.* 1. *p.* 7. *t.* 4.—*Portulaccæ facie maritima fruticosa erecta Americana, Sloane Jam.* 87, *Hist.* 1. *p.* 205.—*Anacampseros foliis radicalibus mollibus ovatis glabris, scapo assurgenti paniculato, Brown's Jam.* 234.

HABITAT in maritimis Americæ.

FLORET Aug. ♄.

OBS. *Calyx* pentaphyllus. *Capsula* trivalvis. *Flores* albi. *Willd.* l. c.

decumbens. 11. P. foliis obovatis planis mucronatis, racemis axillaribus, calycibus pentaphyllis, caule decumbente.

P. (*decumbens*) *foliis obovatis mucronatis, calycibus pentaphyllis, caule fruticoso decumbente, Vahl. Symb.* 1. *p.* 33.—*Talinum decumbens Willd. Sp. Pl.* 1. 864.—*Orygia* (*decumbens*) *caule decumbente fruticoso, foliis ovatis acutis subfarinosis. Forsk. Descr.* 103.

HABITAT in Arabia Felici. ♄.

OBS. *Calyx* pentaphyllus. *Corolla* polypetala rubro-violacea. *Capsula* quinquevalvis. *Willd.* l. c.

crassifolia. 12. P. foliis planis obovatis mucronatis, corymbo elongato, pedunculis triquetris.

P. (*crassifolia*) *foliis lanceolatis planis, racemis triquetris, caule erecto, Murr. Syst. Veg.* 14. *p.* 466.—*Jacq. Hort.* 3. *t.* 52.—*Talinum crassifolium Willd. Sp. Pl.* 1. 863.

HABITAT .... ♄.

patens. 13. P. foliis ovatis planis, panicula terminali, pedunculis dichotomis, petalis rubris, caule fruticoso.

Portulacca patens Linn. Mantis. 242.—*Ait. Hort. Kew.* 2. 128. —*Talinum patens Willd. Sp. Pl.* 1. 863.

HABITAT in America.

FLORET Aug. ♄.

P. foliis

P. foliis lanceolato-ovatis sessilibus oppositis, panicula ramosa, petalis flavis, radice annua. *reflexa.* 14.

Talinum reflexum Cav. Icon. 1. p. 1. t. 1.—*Talinum patens* β. *Willd. Sp. Pl.* 1. 863.

Habitat in America. ♂.

Obs. Præcedenti nimis affinis, sed differt radice bienni petalisque luteis.

†† Gibbæ. *Foliis valde carnosis, subtus maxime gibbis, axillis pilosis.*

P. foliis ovatis difformibus glabris viridibus, pedunculis teretibus elongatis subpaniculatis. *Anacampseros* 15.

Portulacca anacampseros Linn. Sp. Pl. 1. 639.—*Ait. Hort. Kew.* 2. 128.—*Portulacca anacampseros foliis ovatis gibbis, pedunculo multifloro, caule fruticoso, Mill. Dic. ed.* 8. *no.* 3.—*Talinum anacampseros Willd. Sp. Pl.* 1. 862.—*Plantes Grasses, page* 3. *cum icone.*—*Anacampseros foliis ovatis convexis acutiusculis Linn. Hort. Ups.* 146.—*Anacampseros foliis acuminatis Linn. Hort. Clif.* 207.—*Royen. Lug. Bat.* 412.—*Telephiastrum folio globoso Dill. Elth.* 376. *t.* 281.—*Portulacca africana sempervirens, flore rubicundo, Comm. Hort. Amst.* 2. 177. *t.* 89.—*Raj. Supp.* 507.

Habitat Cap. Bon. Sp.

Floret Jul.—Aug. radiis solaribus. ♄.

Descriptio. *Radix* fibrosa. *Caudices* perennes subramosi pergrossi carnosi teretiusculi subpalmares, et subinde quasi articulati; ad axillas foliorum pilis paucis brevibus instructi. *Rami* pauci breves alterni. *Folia* conferta sessilia opposita et alterna, glabra carnosa valde gibba difformia, sæpe ovata et acuta, subinde orbiculata, juniora sæpe canaliculata adscendentia, seniora horizontalia. *Flores* racemoso-paniculati. *Scapi* nudi teretes glabri, et ad ramificationes, bracteis acutis membranaceis aliquo laceris, pilisque albis instructi. *Pedunculi* elongati teretes glabri subinde ramosi, superiores multoties breviores. *Calyx* diphyllus foliolis ovato-lanceolotis acuminatis, intus valde concavis, extus convexis. *Corolla* quinque- vel subinde quadripetala, pomeridiana fugacissima, petalis perpulchris saturate et hilariter rubicundis, ovato-lanceolatis acutis concavis. *Filamenta* numerosa capillaria pallida. *Antheræ* parvæ luteæ. *Pistillum* unicum album filamentis magis elatum. *Stigmata* tria. *Capsula* unilocularis polysperma. *Semina* valde alata et inde triquetra. Ala nivea magna.

P. foliis

arachnoides. 16. * P. foliis ovatis acuminatis difformibus viridibus lucidis arachnoideis, racemo simplici, pedunculis teretibus elongatis.
HABITAT Cap. Bon. Sp.?
FLORET Aug. Sept. ♄.
DESCRIPTIO. Præcedenti valde affinis et similis, sed fere quadruplo minor, foliis plerumque adscendentibus magis distantibus et sparsis, et sæpe undique pilis intertextis distantibus et appressis, obsitis; unde facies arachnoides: Pili ad basin foliorum magis validi et numerosi quam in præcedente. *Corolla* albida fugacissima pomeridiana, tinctura formosa rubedinis. *Stigmata* magis expansa quam in præcedente. *Semina* multoties minus alata.

rubens. 17. * P. foliis ovatis acuminatis difformibus lucidis atrorubentibus arachnoideis apicibus respicientibus, racemo simplici, pedunculis longissimis.
HABITAT Cap. Bon. Sp.?
FLORET Aug. Sept. ♄.
DESCRIPTIO. Præcedenti simillima magnitudine et habitu: differt in his; *foliis* magis expansis et distantibus, apicibus respicientibus, et subinde retuso-deltoideis ut in *Aloe retusa*, et semper, cum pedunculis magis elongatis; purpurascentibus vel atro-rubentibus.

filamentosa. 18. * P. foliis imbricatis expansis atro-viridibus arachnoideis, superne rugosis; filamentis axillaribus folio longioribus.
Portulacca pilosa Hortulanorum, nec Botanicorum.
HABITAT Cap. Bon. Sp.?
FLORET Aug. Sept. ♄.
DESCRIPTIO. *Radix* tuberculis variis ovalibus, fibrisque instructa. *Caudex* perennis carnosus pergrossus filamentis numerosis tortis albis subinde foliis longioribus, instructus, foliisque undique tectus. *Folia* præcedentibus quadruplo minora densissime imbricata carnosa expansa ovata valde arachnoidea atro-viridia, versus apicem rugosiuscula. Pili et filamenta ex axillis foliorum numerosi albi tortuosi, latitudine variabiles, et foliis sæpe longiores. *Racemi* terminales, cæterisque ut in duabus præcedentibus at tenuioribus.

lanceolata. 19. * P. foliis lanceolatis carnosis, subtus convexis, scapo folioso subunifloro.
HABITAT Cap. Bon. Sp.?
FLORET Aug. Sept. ♃.
DESCRIPTIO. *Radix* herbacea perennis fibrosa. *Caulis* (in

senectis

senectis exceptis) nullus vel brevissimus. *Folia* sæpe radicalia conferta orbiculatim nata, adscendentia lanceolata mucronata carnosa viridia glabra sublucida, pilis longis albis axillaribus, ut in affinibus hujus divisionis. *Scapus* (in senectis exceptis) fere radicalis flexuosus teres glaber subpurpurascens; subuniflorus; foliis 2—3 distantibus, cæteris conformibus at minoribus, instructus. *Calyx* rubescens et *Corolla* rubicunda fere ut in *T. Anacampserote*. *Semina* subtrialata et inde nivea, alâ tertiâ valde diminutâ.

DISSERTATIO QUARTA;

CONTAINING

A NEW ARRANGEMENT

OF THE

GENUS SAXIFRAGA,

As far as it is cultivated in the British Gardens;

WITH

SOME GENERAL REMARKS

ON THE

LOCI NATALES OF THE DIFFERENT SPECIES.

TO MY FRIEND

JAMES DIXON, F.L.S.

AUTHOR OF THE

PLANTARUM CRYPTOGAMICARUM BRITANNIÆ,

A great Admirer and successful Cultivator

OF

ALPINE PLANTS,

And who hath much assisted me in collecting them;

THE FOLLOWING ACCOUNT

OF THE

ALPINE GENUS

SAXIFRAGA

IS INSCRIBED,

WITH GRATITUDE AND RESPECT,

BY

THE AUTHOR.

"There high in air, *memorial of his* name,
"Fix the smooth oar, and bid *him* live to fame."

POPE.

PREFACE.

THE study of this almost exclusively alpine, hardy, and favourite family of plants, has long been the object of my particular attention, both as a Botanist and an Horticulturist.

Forty-seven living species are all which as yet constitute the riches of this department of my collection; but as many of them are at present nondescripts, and the following arrangement of the genus is for the most part novel, it will not, it is presumed, be unworthy the inspection of the Botanical world.

As the convenient distribution of the species of *Saxifraga*, into sections and divisions, and the amendment of their *specificæ differentiæ*, have been more an object of my attention, than any historical or extensive account of them, or their synonyma individually; I have in every part of my arrangement, endeavoured to avoid all unnecessary amplification, by omitting, as much as possible, detailed descriptions and ambiguous synonyms. All the references given I have examined well, and believe them to be correct.

To the abovementioned number of species, about twenty-six of which are natives of Great Britain, it was thought necessary to add two more, viz. *Bryoides* and *Hederacea*, (although I never beheld them either alive or dead,) from the *Hortus Kewensis* of the late Mr. Aiton, which together, form forty-nine, the total number of *Saxifragæ*, which have hitherto been cultivated in the gardens of Britain. The remainder of the genus is entirely exotic, and unknown to me, except from figures

figures and descriptions only; which is my reason for omitting, at present, every part of it in the following arrangement.

The difficulty attending the discrimination of many species of *Saxifraga* from their congeners, is at once felt and acknowledged by every Botanist; but few are aware of the nice distinction which is requisite to regulate the *specificæ differentiæ*, in my new and very natural section *Stoloniferæ*. Nevertheless, if the points on which I have constructed the specific characters in this family, are attended to in the manner that I have assiduously followed, they will be found sufficient, not only to enable the Botanist to distinguish its component species from each other, but to do so in a much easier, and more certain manner, than has hitherto been done.

From the *stolones* and their leaves, and the various gradations of *pubescence* observable upon both, my characteristic distinctions in this division, are principally derived. These characters however, it is necessary to observe, are visible only during the customary periods of *inflorescence* in the spring. At all other seasons, they are either not at all discernible, or too much enveloped in others, to be sufficiently certain and decisive. In autumn and winter, the terminal leaves of the stolones spread less and have more clefts than the vernal ones, and form rose-shaped heads. From the centres of these roses, in spring, arise flowering stems and a new crop of stolones. This has rendered it necessary for me to describe two sorts of leaves in this family, viz. those on the new stolones at the time of flowering, and those which form the rose-shaped heads. The former I have called *folia stolonum*, the latter *folia rosarum*.

But I now come to speak of the *Loci natales* of the constituent *species* of this genus of plants. They are found to differ much less than in many other genera of similar extent; by far the major part, nay nearly all the *Saxifragæ*, being indigenous to the mountains of northern Europe; enjoying, often on

very summits, a cold, pure, and humid air. Yet they are not all upland plants; a small number being found in low, but moist and cold situations. And I once discovered *granulata* growing luxuriantly on a mossy wall; but the aspect was to the north, and the bricks were injured by the moisture of some leaking drain. North America gives birth to three species, viz. *pilosa*, *Pennsylvanica*, and *Hieracifolia*; the last of which occurs likewise on the Carpathian Alps, and is known in gardens by the name of *Mirilandica*.—*Hederacea* (preferring milder skies than any of its tribe) is an annual found in Crete:—and *tridactylites* alone, if my memory deceives me not, usually occurs in situations which are dry; yet grows to most advantage on shaded, moist, and mossy roofs:—and one isolated, but anomalous species, is the remote production of China and Japan. It is almost unnecessary to say, this is *sarmentosa*. To give this plant its proper place in my arrangement, cost some time, and created much difficulty; at first I thought of placing it at the end of the whole; but its nearly naked flowering-stem, determined me to insert it in a section by itself, (founded upon the strange irregularity of its *Corolla*) at the end of my family *Nudicaules*. Whether in so doing I have erred, and to what extent, must be referred with due humility to the botanical world; before the impartial judgment of which it is my desire to bend, with satisfaction, submission, and respect.

Those species which are either new, or have hitherto been considered as varieties only, are distinguished from the old sorts, in my usual manner, by an asterisk in the margin.

Little Chelsea,
July 1803.

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ABBREVIATIONES *in hac Dissertatione citati.*

⊙. An Annual.
♂. A Biennial.
♃. A Perennial.
Cap. Bon. Sp. Caput Bonæ Spei. (Cape of Good Hope.)

SAXIFRAGA.

Linn. Gen. Pl. 223. 559.
Juss. Gen. Pl. 309.
Gært. 1. 177. *tab.* 36. 3.
Tournef. Inst. tab. 129.
Geum Tournef. Inst. tab. 129.

CLASSIS ET ORDO.

Decandria Digynia.

CHARACTER GENERICUS.

Calyx. *Perianthium* monophyllum, quinquepartitum, breve, acutum, persistens.
Corolla. *Petala* quinque, patentia, basi angusta.
Stamina. *Filamenta* decem, subulata. *Antheræ* subrotundæ.
Pistillum. *Germen* subrotundo-acuminatum, desinens in *stylos* duos breves. *Stigmata* obtusa.
Pericarpium. *Capsula* subovata, birostris, unilocularis, inter apices dehiscens.
Semina numerosa minuta.

CHARACTER ESSENTIALIS.

Calyx quinquepartitus.
Corolla quinquepetala.
Capsula unilocularis birostris.

CHARACTER NATURALIS.

Herbæ plerumque alpinæ, humiles et sæpe minutæ, radicibus perennibus et fibrosis, vel rarissime annuis, seu granulatis.
Folia viridia, petiolata, sæpe radicalia, indivisa, vel in *Lobatis* lobata, vel in *Stoloniferis* 3—12-partita et ultra; in *Ciliatis* ciliata, et in *Ligulatis* subcoriacea, et cartilagineo-dentata.

Flores

Flores sæpe paniculati.
Calyx quinquepartitus, persistens, laciniis acutis.
Corolla sæpissime regularis, quinquepetala, *petalis* patentibus basi valde angustis, sæpe albis, et subinde rubro eleganter punctatis, rarius purpureis, vel luteis.
Filamenta decem, subulata, alba, patentia. *Antheræ* subrotundæ, *farina* sæpe lutea.
Pistillum. *Germen* subrotundo-acuminatum, desinens in *stylos* duos breves. *Stigmata* obtusa.
Pericarpium. *Capsula* subovata, birostris, unilocularis, inter apices dehiscens.
Semina numerosa, minuta, fusca.

CHARACTERES SECTIONUM.

* NUDICAULES. *Foliis indivisis, corollis regularibus.*

† Latifoliæ. *Foliis latioribus.*

†† Angustifoliæ. *Foliis lanceolatis vel linearibus.*

** IRREGULARES. *Corollis irregularibus, caulibus nudiusculis.*

*** LIGULATÆ. *Foliis radicalibus aggregatis ligulatis subcoriaceis cartilagineo-dentatis, dentibus plus minusve albo marginatis, caulibus foliosis, corollis regularibus.*

**** CILIATÆ. *Caulibus foliosis, foliis indivisis sæpissime ciliatis, corollis regularibus.*

***** LOBATÆ. *Foliis radicalibus plus minusve lobatis, caulibus foliosis, corollis regularibus.*

****** STOLONIFERÆ. *Foliis rosarum aggregatis fissis, corollis regularibus.*

† Multifidæ. *Foliis stolonum 3—7-fidis.*

†† Paucifidæ. *Foliis stolonum integris trifidisque.*

CHA-

CHARACTERES SPECIERUM.

* NUDICAULES. *Foliis indivisis, corollis regularibus.*

† LATIFOLIÆ. *Foliis latioribus.*

crassifolia. 1. S. foliis obovatis retusis obsolete serratis petiolatis, panicula conglomerata.
S. crassifolia Linn. Sp. Pl. 573.—*Willd. Sp. Pl.* 2. 644.—*S. crassifolia α. Ait. Hort. Kew.* 2. 79.—*Gmel. Syst. Nat.* 2. 705. 13.—*Gmel. Fl. Sib.* 4. 166. *tab.* 66.
HABITAT in Siberia.
FLORET Mai. ♃.

cordifolia. 2. * S. foliis cordatis orbiculatis serratis petiolatis, panicula conglomerata.
S. crassifolia β. Ait. Hort. Kew. 2. 79.
HABITAT in Siberia.
FLORET Mai. ♃.
OBS. Simillima præcedenti sed abunde distincta: differt foliis cordatis et orbiculatis, nec obovatis, minusque serratis: panicula magis glomerata et patente.

Pennsylvanica. 3. S. foliis lanceolatis denticulatis pilosiusculis, caule paniculato, floribus subcapitatis.
S. Pennsylvanica Linn. Sp. Pl. 571.—*Willd. Sp. Pl.* 2. 640.—*Ait. Hort. Kew.* 2. 78.—*Gmel. Syst. Nat.* 2. 705. 11.
HABITAT in Pennsylvania, Virginia et Canada.
FLORET Mai. ♃.

Hieracifolia. 4. S. foliis oblongo-lanceolatis glabris repando-dentatis, pedunculis unifloris aggregatis.
S. Hieracifolia Willd. Sp. Pl. 2. 640.
HABITAT in Alpibus Carpathicis, et etiam in Marilandia.
FLORET Mai. ♃.
OBS. Præcedenti simillima: dignoscitur facile foliis utrinque glabris nec pilosis.

hirsuta. 5. S. foliis cordato-ovalibus retusis cartilagineo-crenatis, caule paniculato.
S. hirsuta Willd. Sp. Pl. 2. 647.—*Gmel. Syst. Nat.* 2. 705. 16.
HABITAT in Pyreneis.
FLORET Mai. ♃.

S. foliis

S. foliis reniformibus dentatis, caule paniculato. *Geum.*
S. Geum Willd. Sp. Pl. 2. 648.—*Gmel. Syst. Nat.* 2. 705. 19. 6.
HABITAT in Europæ Alpibus. In Hibernia?
FLORET Mai. ♃.
OBS. Præcedenti valde affinis, sed satis differt foliis semper reniformibus; nunquam ovalibus.
OBS. 2. I have heard this species has been discovered growing spontaneously on the mountains in Ireland.

S. foliis obovatis subretusis cartilagineo-crenatis, petiolis lanato-ciliatis, caule paniculato. *umbrosa.* 7.
S. umbrosa Linn. Sp. Pl. 574.—*Willd. Sp. Pl.* 2. 647.—*Ait. Hort. Kew.* 2. 79.—*Gmel. Syst. Nat.* 2. 705. 17.—*Smith. Fl. Brit.* 2. 450.—*English Botany, tab.* 663? *sed absque lana petiolorum.*

S. foliis cuneiformibus obtusissimis repandis glabris, caule paniculato. *cuneifolia.* 8.
S. cuneifolia Linn. Sp. Pl. 574.—*Willd. Sp. Pl.* 2. 647.—*Gmel. Syst. Nat.* 2. 705. 20.—*Ait. Hort. Kew.* 2. 80.—*Scopol. Carn.* 1. *t.* 13. *f.* 1.—*Schmidel's Gesner, t.* 12. *no.* 37.
HABITAT in Alpibus Styriæ, &c.
FLORET Mai. ♃.
OBS. Figura omnino præcedentis, at multoties minor, petiolis foliorum glabris, cartilagineo-marginatis, nec lanato-ciliatis sine cartilagine ut in *S. umbrosa.*

S. foliis obovatis subdentatis pilosis petiolo brevioribus, caule pedunculisque pilosis. *pilosa.* 9. *
HABITAT in America Septentrionali.
FLORET Apr. ♃.
DESCRIPTIO. Habitus et facies sequentis sed paulo major. Tota herba (fructificatione excepta) minute pilosa. *Radix* perennis fibrosa. *Folia* obovata obtusissima dentata basi sæpe subcuneata utrinque pilis brevibus erectis vestita, petiolis folio longioribus semiteretiusculis. *Caules* plurimi erecti spithamei teretes subnudi paniculati, ramulis alternis. *Bracteæ* lineari-subulatæ minute ciliatæ. *Pedunculi* solitarii breves pilis horizontalibus minute vestiti. *Calyx* campanulatus quinquefidus laciniis ovatis glabris æqualibus. *Corolla* quinquepetala. *Petala* ovato-oblonga seu elliptica alba immaculata a medio subrecurvata. *Filamenta* 10, brevia albida. *Antheræ* luteæ. *Germen* superum viride. *Styli* duo virescentes.

S. foliis

nivalis. S. foliis obovatis crenatis subsessilibus, caule subnudo, floribus
10. congestis.
S. nivalis Linn. Sp. Pl. 573.—*Willd. Sp. Pl.* 2. 645.—*Gmel. Syst. Nat.* 2. 705.—*Ait. Hort. Kew.* 2. 79.—*Smith. Fl. Brit.* 2. 449.—*Eng. Bot. tab.* 167.—*Smith. Flora Lapp. t.* 11. *f.* 5.—*Lightf. Fl. Scot.* 1. 221. *pl.* 12.—*Scop. Carn. t.* 14. *f.* 1. 2. 3.
Habitat in Alpibus Scoticis, &c.
Floret Jun. ♃.

stellaris. S. foliis serratis caule racemoso, petalis acuminatis.
11. *S. stellaris Linn. Sp. Pl.* 572.—*Willd. Sp. Pl.* 2. 644.—*Gmel. Syst. Nat.* 2. 705.—*Ait. Hort. Kew.* 2. 78.—*Smith. Fl. Br.* 2. 448.—*Eng. Bot. tab.* 167.—*Smith. Flora Lapp. t.* 11. *f.* 3. —*Scop. Carn.* 492. *t.* 13.
Habitat in alpibus Britannicis, &c.
Floret Jun. Jul. ♃.

†† Angustifoliæ. *Foliis lanceolatis vel linearibus.*

Androsacea. S. foliis lanceolatis obtusis pilosis, caule bifloro.
12. *S. Androsacea Willd. Sp. Pl.* 2. 641.—*Gmel. Syst. Nat.* 2. 705.
Habitat in Alpibus Europæ.
Floret Jun. ♃.

cæsia. S. foliis linearibus perforate punctatis aggregatis, recurvatis,
13. caule multifloro.
S. cæsia Willd. Sp. Pl. 2. 641.—*Gmel. Syst. Nat.* 2. 704.—*Scop. Carn.* 1. *t.* 15. 495.—*Schmid. Gesn. tab.* 11. *no.* 30.
Habitat in alpibus Europæ.
Floret Jun. ♃.

Bryoides. S. foliis lanceolatis mucronatis margine cartilagineis ciliatis,
14. caule nudiusculo paucifloro, calycibus obtusis.
S. Bryoides Willd. Sp. Pl. 2. 643.—*Gmel. Syst. Nat.* 2. 705. —*Scop. Carn.* 1. 15. 497.—*Jacq. Misc. Aust.* 2. 49. *t.* 5. *f.* 1.
Habitat in Europæ alpibus.
Floret .... ♃.

** IRREGULARES. *Corollis irregularibus, caulibus nudiusculis.*

sarmentosa. S. foliis subrotundis, petalis duobus elongatis.
15.

S. sar-

S. sarmentosa Willd. Sp. Pl. 2. 646.—*Gmel. Syst. Nat.* 2. 705. —*Curtis Bot. Magaz. t.* 92.
HABITAT in Japonia et Sina.
FLORET Jul. ♃.
OBS. Formosa et valde singularis species, sed omnino anomala, et forte sui generis herba. *Petala* tria superiora rosea punctis rubris, duo inferiora mirabiliter elongata alba immaculata pendentia.

*** LIGULATÆ. *Foliis radicalibus aggregatis ligulatis subcoriaceis cartilagineo-dentatis, dentibus plus minusve albo marginatis, caulibus foliosis, corollis regularibus.*

S. caule paniculato ramosissimo laxo, petalis impunctatis, antheris stylisque carneis. *Cotyledon.* 16.
S. Cotyledon β. *Ait. Hort. Kew.* 2. 78.—*S. Cotyledon Hortorum.*
HABITAT in Pyreneis, &c.
FLORET Jun. ♃.

S. panicula ramosissima, ramis laxis elongatis effusis, petalis albissimis maculis parvis confluentibus lætissime rubicundis. *ligulata.* 17. *
S. Cotyledon α. *Ait. Hort. Kew.* 2. 78.—*S. ligulata Hortorum.*
HABITAT in Pyreneis, &c.
FLORET Jun. ♃.
OBS. Simillima præcedenti, sed dignoscitur primo intuitu foliis longioribus et angustioribus, petalisque punctatis.

S. sarmentis rosæformibus, caule recto superne paniculato subcorymboso, petalis albis rubro punctatis. *rosularis.* 18. *
S. Cotyledon Smith. Fl. Lapp. t. 11. *f.* 2 ?—*An S. media Gmel. Syst. Nat.* 2. 704 ?—*S. rosularis Hortorum.*
HABITAT in Pyreneis, &c.
FLORET Jun. ♃.
OBS. Duabus præcedentibus simillima, at minor minusque paniculata, serraturis foliorum magis argenteis.

S. caule recto paniculato, petalis rubro punctatis, germine antherisque luteis. *Aizoon.* 19.
S. (*Aizoon*) *foliis radicalibus aggregatis lingulatis cartilagineo-dentatis, caule simplici racemoso folioso, calycibus glabris, Willd. Sp. Pl.* 2. 639.—*Schmidel's Gessner, tab.* 12. *no.* 27.
HABITAT in alpibus Europæ.
FLORET Jun. ♃.
OBS. Præcedenti valde affinis, sed differt foliis longioribus et angustioribus

angustioribus dentibus minus dealbatis. Differt a *ligulata* staturâ minore, floribus multoties minus paniculatis seu potius racemosis. A *Cotyledone* differt statura et panicula minoribus, et foliis omnino angustioribus.

mutata. 20. S. marginibus foliorum cartilagineis repandis, caule racemoso folioso, calycibus glanduloso-pilosis, petalis lineari-lanceolatis luteis.
S. mutata Gmel. Syst. Nat. 2. 704.—*Willd. Sp. Pl.* 2. 640.
HABITAT in alpibus Europæ.
FLORET Jun. ♂.
OBS. Præcedentibus quatuor valde affinis. Dignoscitur marginibus foliorum minus albis, petalis luteis nec albis, radiceque tantum bienni, nec perenni.

**** CILIATÆ. *Caulibus foliosis, foliis indivisis sæpissime ciliatis, corollis regularibus.*

Hirculus. 21. S. foliis caulinis lanceolatis alternis nudis inermibus, caule erecto.
S. Hirculus Linn. Sp. Pl. 576.—*Willd. Sp. Pl.* 2. 649.—*Gmel. Syst. Nat.* 2. 706.—*Ait. Hort. Kew.* 2. 81.—*Smith. Fl. Brit.* 2. 451.—*Eng. Bot. tab.* 1009.
HABITAT in Anglia rarissime.
FLORET Aug. ♃.

autumnalis. 22. S. foliis caulinis alternis lineari-lanceolatis ciliatis, radicalibus aggregatis, calycibus quinquefidis.
S. autumnalis Hud. Fl. Ang. 180.—*Lightf. Fl. Sc.* 222.—*With. Bot. Arr.* 404.—*S. aizoides Smith. Fl. Brit.* 452.—*Willd. Sp. Pl.* 2. 650.—*S. aizoides Eng. Bot. tab.* 39.—*Flora Dan. tab.* 72.—*Schmidel's Gesner's Op. fig.* 4. *et forte fig.* 5.
HABITAT in montibus Britannicis.
FLORET Jul. Aug. ♃.
DESCRIPTIO. Folia alterna lineari-lanceolata plus minusve semper ciliata, calycibus semper quinquefidis, petalisque quinque.

aizoides. 23. S. foliis caulinis sparsis lineari-subulatis dentato-ciliatis, calyce terminali quadrifido.
S. aizoides Linn. Sp. Pl. 576.—*S. foliis linearibus sparsis glabris Fl. Suec.* 357. 371.—*S. foliis subulatis sparsis Fl. Lapp.* 178.
HABITAT in alpibus Europæ.
FLORET Augusto. ♃.

DESCRIPTIO.

DESCRIPTIO. *Facies* omnino præcedentis; sed non eadem; differt statura paulo minore et tenuiore magisque decumbente. *Folia* sparsa nec alterna, erectiora, lineari-subulata, nec lineari-lanceolata, minus mucronata, ciliis paucioribus et validioribus. *Flores* subpaniculati, terminalibus quadripetalis calyce quadrifido, nec quinquepetalis calyce quinquefido, *Antheris* 7 nec 10.
OBS. I think I have this species from the mountains in Scotland.

S. foliis caulinis lanceolatis alternis ciliatis, caulibus procumbentibus. *aspera.* 24.
S. aspera Linn. Sp. Pl. 575.—*Willd. Sp. Pl.* 2. 649.—*Gmel. Syst. Nat.* 2. 706.—*Ait. Hort. Kew.* 2. 80.—*Schmidel's Gesner, tab.* 6. *no.* 27.
HABITAT in alpibus Europæ.
FLORET Aug. ♃.

S. foliis caulinis ovatis oppositis imbricatis, summis ciliatis. *oppositifolia.* 25.
S. oppositifolia Linn. Sp. Pl. 575.—*Willd. Sp. Pl.* 2. 648.—*Gmel. Syst. Nat.* 2. 705.—*Smith. Fl. Lapp. tab.* 11. *f.* 1.—*Smith. Fl. Brit.* 2. 450.—*Eng. Bot. tab.* 9.—*Ait. Hort. Kew.* 2. 80.—*Moris. sect.* 12. *t.* 10. *f.* 36.
HABITAT in montibus Britannicis.
FLORET Mar. ♃.

***** LOBATÆ. *Foliis radicalibus plus minusve lobatis, caulibus foliosis, corollis regularibus.*

S. foliis radicalibus reniformibus crenato-lobatis, caulinis valde dentatis, caule paniculato, petalis oblongis punctatis. *rotundifolia.* 26.
S. rotundifolia Linn. Sp. Pl. 576.—*Willd. Sp. Pl.* 2. 651.—*Gmel. Syst. Nat.* 2. 706.—*Ait. Hort. Kew.* 2. 81.—*Curtis Bot. Magaz. t.* 424.—*Schmidel's Gesn. tab.* 10. *no.* 25.
HABITAT in alpibus Europæ.
FLORET Jun. ♃.
" Of this numerous and beautiful tribe of plants, we know of none whose flowers in point of prettiness can vie with those of the present species." *Curtis,* l. c.

S. foliis caulinis ovatis lobatis, caule filiformi flaccido. *hederacea.* 27.
S. hederacea Linn. Sp. Pl. 579.—*Willd. Sp. Pl.* 2. 658.—*Gmel. Syst. Nat.* 2. 707.—*Ait. Hort. Kew.* 2. 82.—*S. cretica annua minima, hederaceo folio, Tourn. Cor.* 18.
HABITAT in Creta.
FLORET Jul. ☉.
OBS. Vel vivam vel siccam nunquam vidi.

granulata. 28. S. foliis caulinis reniformibus lobatis, caule racemoso, radice granulata.
S. granulata Linn. Sp. Pl. 576.—*Willd. Sp. Pl.* 2. 651.—*Gmel. Syst. Nat.* 2. 706.—*Ait. Hort. Kew.* 2. 81.—*Smith. Fl. Brit.* 453.—*Eng. Bot. tab.* 500.
HABITAT in pratis et pascuis Britannicis, solo imprimis glareoso.
FLORET Maio. ♃.
OBS. Variat frequens in hortis, floribus pulcherrime plenis.

cernua. 29. S. foliis caulinis palmatis petiolatis, caule simplicissimo unifloro bulbifero.
S. cernua Linn. Sp. Pl. 577.—*Willd. Sp. Pl.* 2. 652.—*Gmel. Syst. Nat.* 2. 706.—*Smith. Fl. Brit.* 2. 453.—*Eng. Bot. tab.* 664.
HABITAT in montibus Scotiæ.
FLORET Julio. ♃.

rivularis. 30. S. foliis caulinis palmatis, summo florali ovato, caule simplici subbifloro.
S. rivularis Linn. Sp. Pl. 577.—*Willd. Sp. Pl.* 2. 652.—*Gmel. Syst. Nat.* 2. 706.—*Smith. Fl. Brit.* 2. 454.—*Sm. Fl. Lap. tab.* 11. *f.* 7.
HABITAT in rivulis et rupium fissuris irriguis Scotiæ.
FLORET Jun. Jul. ♃.

tridactylites. 31. S. radice annua, foliis caulinis cuneiformibus trifidis alternis.
S. tridactylites Linn. Sp. Pl. 578.—*Willd. Sp. Pl.* 2. 654.—*Gmel. Syst. Nat.* 2. 707.—*Curt. Fl. Lond. fasc.* 2. *t.* 129.—*Ait. Hort. Kew.* 2. 82.—*Smith. Fl. Brit.* 2. 454.—*Eng. Bot. tab.* 501.
HABITAT in arenosis et muribus Britannicis.
FLORET Apr. ☉.
OBS. Variat rarius foliis quinquefidis, et rarissime, simplicibus.

adscendens. 32. S. foliis palmato-tripartitis, laciniis subtrifidis, caule ramoso adscendente.
S. adscendens Linn. Sp. Pl. 579.—*Willd. Sp. Pl.* 2. 655.—*Gmel. Syst. Nat.* 2. 707.
HABITAT in alpibus Europæ.
FLORET Maio. ♃.
OBS. Affinis *S. granulatæ*, caulibus magis decumbentibus, foliis magis fissis, radice fibrosa.

****** STO-

****** STOLONIFERÆ. *Foliis rosarum aggregatis fissis, corollis regularibus.*

† MULTIFIDÆ. *Foliis stolonum 3—7-fidis.*

S. foliis rosarum reniformibus quinquepartitis multifidis, caulinis tripartitis incisis. *geranioides.* 33.
S. *geranioides Linn. Sp. Pl.* 578.—*Willd. Sp. Pl.* 2. 652.—*Gmel. Syst. Nat.* 2. 707.—*Ait. Hort. Kew.* 2. 81.
HABITAT in Pyreneis.
FLORET Maio. ♃.

S. foliis stolonum erectorum quinquefidis laciniis lanceolatis lineola longitudinali subexaratis. *quinquefida.* 34. *
HABITAT in alpibus Scoticis. D. Donn.*
FLORET Maio. ♃.
DESCRIPTIO. Affinis præcedenti at multoties minor. *Stolones* erectiusculi rubri pilis albis remotiusculis vestiti. *Folia* rosarum aggregata 5—11-fida, stolonum sparsa 5-fida vel rarius trifida carnosa longe petiolata, pagina utrinque glabriuscula, marginibus petiolisque ciliato-pilosis. *Caules* rubri flexuosi subquinqueflori. *Bracteæ* imæ trifidæ, cæteræ elliptico-lanceolatæ trinerves recurvatæ. *Flores* majusculi, *petalis* albis cuneato-obovatis, basi nervisque tribus abbreviatis flavicantibus.

S. foliis stolonum prostratorum 3—5-fidis laciniis lineari-lanceolatis aristatis, petalis albis. *adjugifolia.* 35.
S. *adjugifolia Linn. Sp. Pl.* 578.—*Willd. Sp. Pl.* 2. 653.—*Gmel. Syst. Nat.* 2. 706.—*Ait. Hort. Kew.* 2. 82.
HABITAT in Galloprovinciæ montibus.
FLORET Jun. ♃.
OBS. Præcedente minor, stolonibus procumbentibus seu prostratis nec erectis, magisque villosis, foliis omnino angustioribus.

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* My friend Mr. Donn, Curator of the Botanic Garden at Cambridge. He had this and the other species to which I have affixed his name, from either Mr. Donn of Edinburgh, or my friend the late J. Mackay, who found them growing spontaneously on the mountains in Scotland. My friend Mr. Dixon has also had several of them from the same sources.

hirta. 36. * S. foliis stolonum caulinisque imis trifidis, laciniis margine ciliatis, paginis præcipue subtus glabris.

HABITAT in alpibus Scotiæ.

FLORET Maio. ♃.

DESCRIPTIO. *Stolones* rectiusculi villosi. *Folia* rosarum quinquefida, stolonum trifida, petiolis mediocribus ciliatis linea longitudinali exaratis: *folia caulina* sessilia, ima trifida, summa bifida vel lineari-subulata. *Caules* subflexuosi teretes pilis paucis patentibus vestiti. *Flores* paniculati. *Petala* orbiculato-ovata alba, triplilineâ virescente.

hybrida. 37. * S. foliis stolonum trifidis, caulinis lanceolatis, caulibus hirtolanatis.

HABITAT in horto botanico amici mei S. Bale, A. M. comitatu Sussexiæ, sed unde derivatur nescit. Forte a seminibus *S. hypnoidis* a *S. palmata* impregnatis; unde hybridum nomen.

FLORET Maio. ♃.

DESCRIPTIO. *Stolones* procumbentes hirto-lanati. *Folia* rosarum quinquefida, stolonum trifida vel rarius simplicia, undique hirta, petiolata. *Petioli* mediocres hirti linea exarati ut in præcedente et aliis hujus sectionis. *Caules* flexuosi teretes paniculati hirto-lanati, pilis sæpe recurvatis. *Petala* fere ut in præcedente sed basi flavicantia.

palmata. 38. S. foliis rosarum quinquefidis septemfidisque, marginibus paginisque valde hirsutis.

S. (*palmata*) *foliis palmatis quinquefidis trifidisque, caule folioso paniculato, petalis subrotundis, Sm. Fl. Brit.* 456.—*Eng. Bot. tab.* 455.—*Flora Dan. tab.* 71.

HABITAT in montibus Cambriæ.

FLORET Maio Junio. ♃.

OBS. Præcedenti affinis sed robustior, foliis radicalibus latioribus, magis fissis, magisque compactis et hirtis.

viscosa. 39. * S. foliis stolonum erectorum trifidis quinquefidisque, caulinis trifidis lanceolatisque trinerviis, caulibus hirsutis.

S. viscosa, Hortulanorum.

HABITAT in alpibus Scoticis? D. Donn.

FLORET Jun. ♃.

OBS. Affinis *S. moschatæ Sm. Fl. Brit.* 2. 455. sed vix eadem. *Stolones* erecti villosi. Folia undique villosa laciniis cuspidatis, lateralibus ellipticis petiolis exaratis plus duplo brevioribus.

S. foliis

S. foliis rosarum stolonumque erectorum trifidis, laciniis petiolisque nudis ciliatisve. *trifida.* 40. *

Habitat in montibus Cambriæ. D. Dixon.

Floret Jun. ♃.

Obs. Dignoscitur *Stolonibus* erectis, paginis foliorum utrinque glabris, laciniisque lateralibus subulatis petiolo triplo brevioribus. *Folia* rosarum trifida vel rarissime quinquefida. *Flores* non vidi.

Obs. 2. My friend Mr. Dixon discovered this species on the Welch mountains, and favoured me with roots of it.

S. foliis rosarum 5-fidis stolonum prostratorum 3—5-fidis, petiolis ciliatis, laciniarum marginibus paginisque glabris. *lævis.* 41. *

Habitat in alpibus Scotiæ. D. Donn.

Floret Jun. ♃.

Obs. Præcedenti affinis at distincta. Dignoscitur, *stolonibus* prostratis nec erectis magisque compactis, laciniis foliorum lanceolatis lævibus subglaucescentibus nunquam ciliatis, petiolo duplo brevioribus; nec subulatis et triplo brevioribus ut in præcedente. *Folia* stolonum sæpe quinquefida, sed in præcedente nunquam.

Obs. 2. I saw this species cultivated in the Brompton Botanic Garden eleven years since, but not distinguished from *hypnoides.* I believe it first came from the neighbourhood of Settle in Yorkshire. From *hypnoides*, as a species, it is extremely distinct, but approaches near to *trifida*, from which however it may be known at first sight, by its dense prostrate habit, paler, and slightly shining leaves.

†† Paucifidæ. *Foliis stolonum integris trifidisque.*

S. foliis summis stolonum spatulato-linearibus cuspidatis, imis bi- vel tricuspidatis, rosarum quinquefidis. *spatulata.* 42. *

Habitat in alpibus Scoticis. D. Donn.

Floret Maio. ♃.

Descriptio. *Stolones* procumbentes subvillosi. *Folia* rosarum quinquefida seu tricuspidata, *stolonum* inferiorum bi- seu tricuspidata, superiorum spatulata, vel lineari-spatulata, omnia utrinque sæpius glabra sublucida marginibus ciliatis. *Caules* vix paniculati, flexuosi teretes superne pubescentes. *Petala* late-obovata obtusa alba, triplilineâ virescente.

S. foliis stolonum lineari-lanceolatis, imis trifidis, radicalibus quinquefidis. *hypnoides.* 43.

S. hypnoides β. Willd. Sp. Pl. 2. 659.—*S. hypnoides Ait. Hort. Kew.* 2. 83.—*Flora Dan. tab.* 348.

Habitat

Habitat in montibus Westmorlandiæ.
Floret Mai. ♃.
Descriptio. *Caules* paniculati flexuosi foliosi teretes pubescentes. *Folia* rosarum quinquefida, caulina ima trifida vel subinde quinquefida, summa lineari-lanceolata. *Petala* ovato-oblonga, seu elliptica basi distincta nec imbricata, alba apice extus rosea.

angustifolia. 44. * S. foliis stolonum lineari-lanceolatis imis rarissime, rosarum sæpius trifidis.
Habitat in montibus Westmorelandiæ.
Floret Maio. ♃.
Descriptio. Præcedenti nimis affinis. *Folia* rosarum trifida vel rarius quinquefida densa seu valde compacta. *Stolones* breviores et magis compacti quam in *hypnoide*, cui simillima sed minor. *Folia* stolonum plerumque anguste lineari-lanceolata, ima rarissime trifida, omnia plus minusve ciliata et aristata, ut in plurimis hujus sectionis. *Caules* vix paniculati foliosi. *Folia* caulina ima trifida, summa lineari-lanceolata. *Petala* alba obovata, basi aliquo imbricata; nec alba apice extus rosea, basi distincta, ut in præcedente.
Obs. I gathered this species on a mountain in Westmoreland in the year 1795. My friend Mr. Dixon has also found it growing spontaneously there; and informs me it is the *S. angustifolia* of the *Banksian Herbarium*, which name I have therefore adopted.

densa. 45. * S. foliis stolonum subulatis semiteretiusculis, rosarum trifidis.
Habitat in montibus Scotiæ. D. Donn.
Floret Maio. ♃.
Descriptio. Densissima omnium nostratum, præcedenti affinis at duplo minor, stolonibus brevioribus. *Stolones* densissime cespitosi unciales ad biunciales rubri glabri, foliis subulatis ciliatis semiteretiusculis, paginis utrinque glabris. *Folia* rosarum semper trifida, caulina subulata semiteretiuscula carnosa. *Caules* fere ut in præcedente sed floribus magis capitati. *Petala* orbiculato-ovata basi imbricata alba apice extus rubicunda. A præcedente dignoscitur laciniis foliorum subulatis semiteretiusculis nec lineari-lanceolatis.
Obs. Folia summa stolonum magis in capitulo cuspidato collecta quam in *angustifolia.*

cespitosa. 46. S. foliis rosarum aggregatis carnosis trifidis quinquefidisque subtus nervosis, caule nudiusculo subbifloro.
S. cespitosa Smith. Fl. Brit. 2. 455.—*Eng. Bot. tab.* 794.—*An Sax. Groenlandica Linn. Sp. Pl.?* *excluso synonymo Dillenii.*

Habitat

HABITAT in montibus Cambriæ.
FLORET Junio ♃.
DESCRIPTIO. Folia latiora quam in tribus præcedentibus vel in tribus sequentibus, linearia integra trifida vel quinquefida; petalis itidem latioribus quam in sequentibus.

S. foliis rosarum aggregatis trifidis, scapo gracili suberecto paucifloro, floribus citrinis subsessilibus. *muscoides.* 47.
S. muscoides Jacq. Misc. 2. *p.* 125.—*Willd. Sp. Pl.* 2. 656.—*S. cespitosa Scop. Carn. tab.* 14. 494.—*Dill. Elth. tab.* 237. *f.* 329. *bona.*
HABITAT in montibus Scotiæ. D. Donn.
FLORET Maio. ♃.
DESCRIPTIO. Præcedente altior et tenuior foliis obtusis nudis sæpius trifidis rarius integris nunquam quinquefidis, petiolis obsoletissime ciliatis vel nudis. *Folia* caulina integra linearia obtusa. *Flores* racemosi. *Petala* lanceolato-oblonga obtusa subflava.

S. foliis stolonum linearibus integris remote ciliatis, rosarum sæpe trifidis, caule pubescente nudiusculo subbifloro. *elongella.* 48.
S. (*moschata*) *foliis radicalibus aggregatis membranaceis lineari-lanceolatis integris trifidisve triplinerviis, caule nudiusculo subbifloro Smith. Fl. Brit.* 2. 455. *excluso synonymo Jacq., quæ est longe diversa.*—*S.* (*cæspitosa*) *foliis radicalibus aggregatis linearibus integris trifidisque, caule erecto subnudo subbifloro, Huds. Fl. Ang.* 181. *excluso synonymo Fl. Dan.* 71. *quæ ad S. palmatam pertinet.*—*S. moschata With.* 406.—*An S. cæspitosa Linn. Sp. Pl.* 578?
HABITAT *in montibus supra* Ambleside *in comitatu* Westmorlandico. *Huds.* l. c.
FLORET Mai. ♃.
DESCRIPTIO. Præcedenti similis sed tenuior et distincta. *Folia* sæpe integra, linearia, obtusa, tenuiora et graciliora et longiora, quam in præcedente, latitudine semi-lineari, longitudine 6—7-linearibus, pilis glanduliferis remote ciliata, certo situ subtus minime papuloso-micantia. *Caules* filiformi-teretes substricti subaphylli, subbiflori pubescentes. *Flores* flavicantes fere ut in præcedente at paulo tenuiores.
OBS. As the *Saxifraga moschata of Jacquin's Miscellanea tab.* 21. *f.* 21. is a species clearly distinct from the present, that name by right of priority belongs to his plant. Dr. Withering, and the accurate author of *Flora Britannica,* conceiving it not to differ specifically from that of Jacquin, adopted his name. But the contrary appearing

satisfactorily to me, the formation of a new name for the English species has become necessary; I have therefore, with all due deference to such respectable authorities, constructed and applied one, which not unaptly expresses at once the diminutive size of the plant, and its slender elongated leaves.

pygmæa. 49. * S. foliis stolonum lineari-lanceolatis obtusis subciliatis, rosarum trifidis, racemo valde folioso 2—6-floro pubescente.

Habitat in Scotiæ montibus. D. Donn.

Floret Maio. ♃.

Descriptio. Præcedenti nimis affinis sed distincta. *Statura* plus duplo minor. *Caules* unciales densissime cespitosi. *Folia* sæpe paulo latiora quam in præcedente sed fere duplo breviora, sublanceolata nec linearia. *Racemus* valde foliosus 1—6-florus nec subaphyllus subbiflorus; *folia caulina*, basi pedunculorum subinde geminata. *Pedunculi* circa medium bractea parva foliiformi instructi. *Laciniæ calycis*, et *petala* flavicantia latiora et breviora quam in præcedente.

Obs. If the foregoing Dissertation on *Saxifraga* meets the approbation of the public, it shall hereafter be extended to the remaining species of that interesting genus.

DISSERTATIO QUINTA;

SIVE

DESCRIPTIONES

VIGINTI-QUATUOR

NOVARUM SPECIERUM PLANTARUM,

CUM

LOCIS NATALIBUS

TEMPORIBUSQUE FLORENDI.

TO THE MEMORY

OF

MY LATE AND REGRETTED FRIEND

BENJAMIN ROBERTSON, ESQ.

OF STOCKWELL IN SURREY,

WHO LEFT BY WILL (BUT INEFFECTUALLY)

ALL HIS IMMENSE PROPERTY FOR THE PURPOSE OF ESTABLISHING

A

PERMANENT BOTANIC GARDEN,

THE FOLLOWING DISSERTATION

ON

TWENTY-FOUR NEW SPECIES

OF

EXOTIC PLANTS

IS MOST RESPECTFULLY INSCRIBED,

AS A TESTIMONY

OF

REMEMBRANCE AND ESTEEM,

BY

THE AUTHOR.

It grieves my heart to be remembered thus
By any one; of one so glorious.

CHAPMAN.

PREFACE.

THE object of the present *Dissertation* is to name and describe in a botanical manner, sixteen species of exotic plants of the order SUCCULENTÆ, which have not hitherto been described, either in the preceding *Dissertations*, or in any other *publication* I have yet seen, and which are all now living in my own collection.

To these I have added names and descriptions of three new exotic species of the extensive and charming genus *Oxalis*; and four new species of exotic *Narcissi*, which are likewise living in my own garden; and one nondescript species of *Ornithogalum*, from the Cape, that I do not cultivate myself, but which I received in a living state, from my friend Mr. Whitley, nurseryman at Brompton.

The descriptions were composed at different intervals of time, and some of them are not quite so perfect and complete as could be wished; but they will nevertheless sufficiently enable the botanist to distinguish the plants both from each other, and from all the old species.

They are arranged in the *Dissertation* in the manner of their occurrence in the Linnæan system, and I have given the class and order, and essential generical character of each, as well as the specific character and general description; and likewise the native country and time of flowering.

Little Chelsea,
July 1803.

AUC-

AUCTORES *in hac Dissertatione citati.*

1. *Juss. Gen. Pl.* Antonii Laurentii de Jussieu Genera Plantarum, &c. Parisiis, 1789. 8vo.
2. *Linn. Gen. Pl.* Caroli à Linné Genera Plantarum, Editio sexta. Holmiæ, 1764. 8vo.
3. *Park. Parad. Ter.* Paradisus Terrestris, &c. by John Parkinson. London, 1629. Folio.

ABBREVIATIONES *in hoc Opusculo.*

☉. An Annual.
♃. A Perennial.
♄. A Shrub.
A. M. Antemeridianum. (Morning.)
Cap. Bon. Sp. Caput Bonæ Spei. (Cape of Good Hope.)

CRAS-

CRASSULA.

Linn. Gen. Pl. 154. 392.
Juss. Gen. Pl. 307.

CLASSIS ET ORDO.

Pentandria Monogynia.

CHARACTER GENERICUS ESSENTIALIS.

Corolla 5-petala vel 5-partita, laciniis basi vel post medium connatis.

Crassula foliis infimis distinctis oppositis linguæformibus ciliatis pubescentibus, floribus verticillatis confertis sessilibus, caule folioso. *linguæfolia.* 1.

Habitat Cap. Bon. Sp.

Floret Aug. at rarius. ♃.

Descriptio. *Radix* fibrosa perennis. *Caulis* simplex plantæ florentis fere pedalis, erectus teres, pubescens et foliosus, crassitie calami cygni. *Folia* opposita distantia patentia linguæformia ciliata pubescente-canescentia tripollicaria et subinde ultra, supra plana, subtus convexa; inferiora quadrifariam imbricata; superiora seu caulina, remota et sensim minora, summa fere bracteacea. *Flores* spicati capitulatim-verticillati sessiles bracteati minuti. *Bracteæ* minutæ ovatæ farctæ virides subnudæ sed ciliatæ subtus convexæ. *Calyx* parvus 5-phyllus, foliolis erectis oblongis obtusis farctis viridibus subnudis, subtus convexis. *Corolla* monopetala calyce duplo longior quinquefida ampullæformis, laciniis ad medium connatis viridibus erectis, apicibus subulatis horizontalibus albis. *Stamina filamenta* 5 virescentia corollâ breviora. *Antheræ* erectæ virides. *Pollen* luteum. *Pistillum* styli 5 erecti ovato-acuminati pallide-virides filamentis breviores. *Stigmata* rotundula parva. *Capsulæ* superæ quinque. *Semina* non vidi.

Obs. My friend Mr. William Anderson, Botanic Gardener to J. Vere, Esq. of Kensington Gore, first favoured me with a plant of this species, which flowered in the month of August 1803; and continued in perfection a considerable time.

Obs. 2. The summer of 1803 having been the driest, finest, longest,

longest, and most uniform of any I ever recollect, (and thereby the more resembling an African summer) has proved more than usually favourable to the growth and flowering of our exotic succulents, particularly *Crassulæ*, *Aloes*, *Cacti*, and *Mesembryanthema*.

biconvexa. 2. CRASSULA foliis linearibus obtusis vaginantibus utrinque convexis cartilagineo-ciliatis, floribus cymosis, caulibus decumbentibus.

HABITAT Cap. Bon. Sp. ♄.

FLORET Aug. at rarissime.

DESCRIPTIO. *Radix* fibrosa. *Caules* tenues teretes subramosi decumbentes palmares vel rarius spithamei. *Folia* opposita connata vaginantia remotiuscula expansa vel subinde recurvantia, linearia obtusa saturate viridia, paginis duabus carne farctis, et inde convexiusculis utrinque, marginibus minime cartilagineo-serrulatis. *Folia* in caulibus floriferis magis remota et sensim minora. *Flores* cymosi parvuli in hoc genere pro ratione magnitudinis plantæ, albicantes et nunquam conferti, ut in plurimis *Crassulis*. *Cyma* sæpe basi bifida. *Pedunculi* uniflori basi bracteati. Cæteris ut in congeneribus.

OBS. I have cultivated this species eight years, during which it has only once produced flowers. *Crassula cymosa* of Thunberg and Willdenow (a luxuriant specimen of which appears to me to be figured in *Andrews's Botanical Repository*, under the name of *odoratissima*) is closely allied to it. From *cymosa*, however, *biconvexa* differs abundantly, in having narrower and more convex leaves, which are not subulate and acute as in that species: *cymosa* is also three times the size of *biconvexa*.

undulata. 3. CRASSULA foliis connatis ovatis expansis cartilagineo-crenatis, summis ovato-ellipticis undulato-incurvis, caule dichotomo suffruticoso.

HABITAT Cap. Bon. Sp.

FLORET Aug. Sept. ♄.

DESCRIPTIO. Suffrutex dodrantalis vel ultra, glaber. *Radix* fibrosa. *Caulis* teres carnosus vel basi sublignosus articulatus dichotomus. *Rami* itidem teretes articulati et dichotomi, valde numerosi et foliosi, sæpius oppositi, sed subinde alterni. *Folia* opposita approximata læviter connata, cartilagineo-ciliata, carnosa viridia nuda, *ima* expansa ovata apice paulo flexa vel incurva, *superiora* ovato-elliptica, basi patula, sed versus apicem plus minusve oblique undulato-incurva,

suprema

suprema elliptica magis incurvata marginibus undulatis. *Flores* terminales cymosi numerosi. *Calyx* pentaphyllus, sæpe rubescens. *Corolla* quinquepetala alba pulchella *petalis* acutis calyce duplo longioribus. Cætera ut in affinibus.

Obs. Variat interdum ramis floriferis simplicibus, et tunc foliis magis undulatis.

ORNITHOGALUM.

Linn. Gen. Pl. 166. 418.
Juss. Gen. Pl. 53.

CLASSIS ET ORDO.

Hexandria Monogynia.

CHARACTER GENERICUS ESSENTIALIS.

Corolla 6 petala persistens infera. Filamenta alterna basi dilatata.

Ornithogalum racemo subovato, foliis longo-lanceolatis acuminatis, bracteis pedunculo duplo brevioribus, filamentis alternis furcatis. *bicolor.* 4.

Habitat Cap. Bon. Sp.

Floret Sept. ♃.

Descriptio. *Radix* bulbus tunicatus perennis. *Folia*, radicalia orbiculatim nata adscendentia, longo-lanceolata subcarnosa viridia, marginibus minute cartilagineis, et minutissime ciliatis. *Scapus* pedalis vel sesquipedalis erectus nudus teres glaber, crassitie calami anseris. *Flores* in thyrso subovali, numerosi, *pedunculis* erectis bracteatis sesquipollicariis filiformibus et sæpe semicylindricis. *Bracteæ*, una ad basin singuli pedunculi elliptica et valde acuminata membranacea persistens et demum scariosa, pedunculo duplo brevior. *Calyx* nullus. *Corolla* hexapetala subcampanæformis. *Petala* persistentia concava ovalia nivea, sed basi utrinque sordide fulva, inde fundus corollæ fulvus evadit. *Filamenta* sex nivea petalis fere triplo breviora, alterna, fere ad medium dilatata et furcata. *Antheræ* oblongæ sordide fulvæ. *Germen* oblongo-rotundum atro-viride. *Stylus* unicus brevis robustulus

robustulus sordide fulvus. *Stigma* obtusum fere trilobum albicans. *Capsulam* et *semina* nunquam vidi.

OBS. My friend Mr. Whitley, nurseryman at Brompton, received roots of this fine species of *Ornithogalum* from the Cape of Good Hope in the present year (1803); and favoured me with the living specimen in flower, from which the above description was taken.

OBS. 2. It is allied to *O. thyrsoides*, but differs not only in the colour of the corolla, but in having longer, more erect, and much less ciliated leaves. From *O. lacteum* of *Jacq. Coll. Supp.* 76. it differs in being smaller, and in the shape and colour of its flowers.

NARCISSUS.

Linn. Gen. Pl. 161. 403.
Juss. Gen. Pl. 55.

CLASSIS ET ORDO.

Hexandria Monogynia.

CHARACTER GENERICUS ESSENTIALIS.

PETALA sex æqualia. NECTARIUM infundibuliforme 1-phyllum. STAMINA intra Nectarium.

* *Petalis Nectario æquantibus.*

† *Foliis filiformibus.*

lobulatus. 5. NARCISSUS nectario apice undulato-lobato, stylo incluso.

HABITAT ....

FLORET Apr. ♃.

DESCRIPTIO. *Radix, folia, scapus* et *flos*, fere ut in *N. tenuifolio*, cui maxime affinis est sed paulo major; differt nectario undulato-lobato, nec profunde lobato; et stylo omnino incluso, nec valde exerto ut in *tenuifolio*:—a *N. Bulbocodio*, differt statura duplo minore, et in nectario undulato-lobato, nec integerrimo.

OBS. Mr. Colvill, nurseryman in the King's-Road, first favoured me with this species.

OBS. 2. In my new arrangement of the Genus Narcissus, in the 5th vol. of the *Linnean Society of London's Transactions*, I referred *N. tenuifolius* to *Park. Par. ttr.* 107. *f.* 7. which figure

figure I now rather think belongs to the present species, because the style is represented as included in the nectarium. In *N. tenuifolius* the nectary is much more deeply lobed, and the style projected further out of it than in any other species.

†† *Foliis planis.*

NARCISSUS nectario apice patulo inciso-lobato, petalis tortuosis valde longiore. *tortuosus.* 6.
Park. Par. ter. 101. 3. ?
HABITAT in Hispania.
FLORET Apr. ♃.
DESCRIPTIO. Simillimus *N. albo* at major. *Folia* glauca plus minusve torta. *Spatha* uniflora. *Petala* pallide sulphurea, ad latera plus minusve reflexo-tortuosa, tubo viridi corollæ duplo longiora. *Nectarium* sulphureum.

NARCISSUS petalis sesquilongitudine tubi corollæ, nectario apice recto subinciso. *serratus.* 7.
HABITAT . . . .
FLORET Mar. ♃.
DESCRIPTIO. Simillimus *N. bicolori* at duplo minor. *Folia* plana latiuscula. *Petala* sulphurea sesquilongitudine tubi corollæ; nec sesquiduplo longitudine tubi corollæ ut in *bicolore*. *Nectarium* luteum apice recto inæqualiter serrato vel subinciso, longitudine petalorum.
OBS. In vain have I sought for a figure of this *Daffodil* in old Parkinson's "*Garden of all sorts of pleasant flowers which our English ayre will permitt to be noursed up :—chiefest for choyce and fairest for shew:*"—Yet I was fortunate enough to find it *alive* in an old garden at Hackney.

** *Petalis nectario duplo longioribus.*

†† *Floribus cernuis.*

NARCISSUS subbiflorus, petalis subreflexis, nectario truncato cylindrico, stylo exerto. *nutans.* 8.
Park. Par. ter. 93. 1. ?
HABITAT . . . .
FLORET Apr. ♃.
DESCRIPTIO. Affinis *N triandri*, sed valde distinctus. Folia subulata valde canaliculata viridia. *Petala* pallide lutea, nectario saturatiore. *Stamina* sex, tria abbreviata.
OBS. Mr. Whitley, nurseryman at Brompton, first favoured me with this species, under the name of *N. triandrus*.

COTY-

COTYLEDON.

Linn. Gen. Pl. 229. 578.
Juss. Gen. Pl. 307.

CLASSIS ET ORDO.

Decandria Pentagynia.

CHARACTER GENERICUS ESSENTIALIS.

Calyx quinquefidus. Corolla monopetala. Squamæ Nectariferæ 5, ad basin germinis. Capsulæ quinque.

cespitosa. 9. Cotyledon foliis glaucis anguste linguæformibus, apice obcuneatis submucronatis, floribus spicatis, caule folioso.

Habitat Cap. Bon. Sp.

Floret Jul. Aug. ♃.

Descriptio. Herba succulenta cespitosa. *Radix* perennis fibrosa. *Folia radicalia,* numerosa orbiculatim nata et imbricata, omnino ut in *Sempervivo,* anguste linguæformia perglauca carnosa, supra concava, subtus convexa, apice obverse cuneata:—folia caulina, mucrone brevissimo sæpe munita; superiora sensim minora; suprema omnino naturæ bractearum. *Caules* pedales valde foliosi floriferi. *Flores* dense spicati subverticillati, partibus fructificationis ut in congeneribus.

Obs. Flores (siccos exceptos) non nunc possideo.

OXALIS.

Linn. Gen. Pl. 231. 582.
Juss. Gen. Pl. 270.

CLASSIS ET ORDO.

Decandria Pentagynia.

CHARACTER GENERICUS ESSENTIALIS.

Calyx 5-phyllus. Petala 5 unguibus connexa. Stamina inæqualia, 5 breviora exteriora basi connata. Capsula pentagona, angulis dehiscens.

Oxalis

Oxalis foliis ternatis, ramis erectis pubescentibus basi perennibus, pedunculis subtrifloris, radice subfusiformi. *perennans.* 10.

Habitat in Nova Hollandia. ♃.

Floret Maio—Nov. A. M.

Descriptio. *Radix* perennis fibrosa, sed ætate subinde strumosa et fere fusiformis. *Caules* plurimi erecti dodrantales subinde suffrutescentes et aliquo flexuosi, teretes graciles pilis albis brevibus expansis undique tecti. *Folia* alterna ternata petiolata viridia, foliolis fisso-obcordatis nudis ciliatis, petiolis teretibus pubescentibus, triplo brevioribus. *Pedunculi* axillares petiolis foliorum sæpe longiores 2—3-flori, pedicellis pedunculo communi conformibus, at multo brevioribus, et basi bracteis 2—6 lineari-lanceolatis pubescentibus instructis. *Calyx* 5-phyllus subcampanulatus foliolis linearibus apicem versus attenuatis obtusis, lente valde pubescentibus. *Corolla* 5-petala laciniis obovato-cuneatis, apice rotundatis et aliquo obliquis, calyce duplo longioribus, intus luteis, extus fulvis. *Filamenta* 10 glabra albicantia, 5 breviora quam cæteris ut in congeneribus. *Antheræ* luteæ incumbentes subcordatæ. *Styli* quinque. *Stigmata* patula lente quasi radiata, filamentis paulo altiora. *Capsula* 5-gona polysperma lente pubescens. *Semina* numerosa: matura, ovata valde compressa et transversim perrugosa rufo-brunnea, arillo ovato niveo munita, ex quo mirabiliter elastice rejiciuntur.

Obs. The ripe seeds of many *Oxalides* are ejected from the mature capsules with a very singular and considerable force; particularly if the capsules are slightly compressed with the fingers; and at the moment they are forced from the seed-vessel, they escape also from their arillus, (or exterior coat) by bursting it asunder. Dillenius long since observed this interesting operation; and (describing an Oxalis since named *Oxalis Dillenii* by Willdenow) thus speaks of it:—"Semina rotunda, candida et lucida quæ ubi ad maturitatem perveniunt candidus ille et lucidus folliculus semina investiens, se aperit, et cum impetu grana ejaculantur subrotunda ruffa transversus, si per lentem vitream aspiciantur, rugis exarata." *Hort. Elth. p.* 299.

Obs. 2. *O. perennans*, like many, if not all the species of this charming genus of plants, has various extraordinary hinge-like articulations, one at the base of every petiole and leaflet, and likewise at the base of every general and partial peduncle; by means of which, towards evening, those parts are collapsed and deflexed, or bent down nearer to the ground than they were in the morning; and this is repeated every evening

evening, and is called their sleep. These hinge-like articulations, and consequent motions, are also found in all *Mimosæ, Cassiæ, Trifolia,* and in *Leguminous* plants with divided leaves.

The motions of the parts are the same in all these vegetables; and for the same reasons; that is, for the purpose of defending them from nocturnal chills; but they differ very widely in degrees of irritability. Their causes must not be confounded with the periodical opening and closing of various flowers, (particularly *Syngenesious* ones), which they resemble in appearance only: because these flowers expand and fold up for different purposes, and their movements are governed by different laws.

Obs. 3. *Oxalis perennans* was raised, with some other new plants, by my friend the late Mr. Curtis, in his Botanic Garden at Brompton, about twelve years since, by what the gardeners call *sowing earth* which came from New Holland. The *sowing* of *exotic earth* well merits the further attention of every horticulturist, and is done by simply laying about an inch thick of it upon the *surface* of any garden pot placed in a degree of heat suitable to the climate from whence the earth *sown* is brought. It may even be placed on the tops of pots which have already growing plants in them. My ingenious friend Mr. W. Anderson, Botanic Gardener to J. Vere, Esq. has raised various new plants in this way. And my friend Mr. Dixon (so justly called our great Cryptogamist), by my advice, *immersed in water* some *dry mud*, which he found adhering to the roots of the specimen of *Elatine hydropiper*, that is figured by my friend Mr. Sowerby in his *English Botany*; and to our mutual satisfaction, two fine and flourishing plants of the *Elatine* were speedily produced.

rubens. 11. Oxalis foliolis ternatis fisso-obcordatis nudis petiolis triplo brevioribus, pedunculis bifloris, radice fibrosa annua.

Habitat in Nova Hollandia?

Floret Aug.—Nov. ☉.

Descriptio. *Radix* fibrosa annua. *Caules* ramosi palmares et ultra. *Rami* erectiusculi vel sæpe effusi, et decumbentes subflexuosi teretes graciles et purpurascentes, pilis brevibus erectis vel appressis instructi. *Folia* alterna petiolata ternata, foliolis fisso-obcordatis subtus purpureis, supra atrorubentibus lævibus nudis, petiolis filiformibus subnudis viridibus triplo vel quadruplo brevioribus. *Foliola* subinde aliquo ciliata sunt, et lente semper micantia præcipue subtus.

tus. *Pedunculi* axillares biflori pergraciles minime pubescentes, basi pedicellorum bracteis duabus linearibus lente subciliatis instructi. *Pedicelli* inæquales pedunculo communi conformes at tenuiores et breviores. *Calyx* campanulatus 5-phyllus, foliolis angusto-lanceolatis obtusiusculis minus pubescentibus quam in præcedente. *Corolla* 5-petala lutea, extus pallide lutea, laminis petalorum cuneatis apice rotundatis. *Filamenta* 10 albicantia, lente hispidula, fere ad medium connata, horum 5 abbreviata sunt, et 5 altitudine stylorum. *Styli* 5 breves erecti. *Capsula* 5-gona polysperma nuda. *Semina* ovata transversim perrugosa valde compressa ovata brunnea, arillo ovato niveo.

OXALIS foliolis ternatis latissime fisso-obcordatis, pedunculis bifloris, caulibus ramosissimis prostratis, radice subfusiformi annua. *prostrata.* 12.

HABITAT in America Septentrionali.

FLORET Jul.—Nov. ⊙.

DESCRIPTIO. Affinis *Oxalidi Dillenii*, differt radice minus fibrosa caulibus numerosioribus magis effusis, prostratis, et ramosis. *Radix* annua tenuissime fusiformis, fibris lateralibus ramosis instructa. *Caules* numerosi orbiculatim nati decumbenti-prostrati teretes, et cum ramis alternis patulis numerosis, valde pilosi: pili breves expansi albi. *Folia* alterna petiolata ternata patula: foliola latissime fisso-obcordata nuda ciliata, petiolis semiteretibus pubescentibus plus triplo breviora. *Pedunculi* axillares 2—3-flori pubescentes petiolis foliorum breviores. *Pedicelli* inæquales teretes pubescentes pedunculo communi quadruplo breviores, basi bracteis subulatis pubescentibus instructi ut in præcedente. *Calyx* 5-phyllus campanulatus foliolis obtuse lanceolatis lente solo pubescentibus. *Corolla* 5-petala, petalis cuneatis apice paulo rotundatis, calyce fere duplo longioribus, intus luteis extus pallidioribus. *Filamenta* 10, horum 5 abbreviata ut in omnibus hujus generis, glabra alba. *Antheræ* incumbentes luteæ. *Styli* 5 brevissimi altitudine filamentorum virides. *Capsula* 5-gona polysperma. *Semina* ut in duabus præcedentibus.

OBS. Notwithstanding the rich harvest of the once small, but now extensive genus *Oxalis*, arranged and delineated by the celebrated Jacquin; I have here the happiness to add to his numbers three other fibrous-rooted species, all of which are very distinct from his, and from each other; and of which I have not been able to find the least account in any publication. I have cultivated all the three nine years in the open

open ground, and never observed them to vary in the slightest manner. In the greenhouse they rise freely from seed, are often perennial, and become troublesome weeds.

EUPHORBIA.

Linn. Gen. Pl. 243. 609.
Juss. Gen. Pl. 385.

CLASSIS ET ORDO.

Dodecandria Trigynia.

CHARACTER GENERICUS ESSENTIALIS.

COROLLA 4—5-petala, calyce insidens. CALYX 1-phyllus, ventricosus. CAPSULA 3-cocca.

enneagona. 13. EUPHORBIA aculeata subnuda erecta subenneagona, aculeis solitariis floriferis adscendentibus subfuscis, ramulis pendulis.

HABITAT ....

FLORET Sept.—Nov. ♄.

DESCRIPTIO. *Radix* fibrosa. *Caudex* subsimplex aculeatus viridis erectus pedalis, superne sæpe incrassatus, diametro unciali et ultra, 8—10-gonus, sulcis linea subundulata exaratis. *Rami* solitarii perpauci basi valde attenuati et inde debiliter penduli. *Aculei* numerosi solitarii at approximati persistentes, bracteati floriferi adscendentes, primo virides succulenti, denique exsiccati subfusci et tenuiores, semiunciales ad unciales. *Bracteæ* minutæ alternæ lineares. *Folia* minutissima solitaria expansa acuminata, viridia longitudine lineari, inter tuberculos summos angulorum. *Flores* solitarii ad apices aculeorum, involucro triphyllo calyciformi vestiti ; foliola involucri lineari-spathulata, subinde emarginata. *Calyx* proprius campanulatus 5-partitus foliolis horizontalibus rotundatis luteo-viridibus. *Corolla* 5-petala, petalis minutis erectis palmatis calyce brevioribus lutescentibus. *Filamenta* alba erecta calyce duplo longiora. *Antheræ* erectæ didymæ luteæ. Cætera pro ratione lactis virosæ plantæ non examinavi.

polygona. 14. EUPHORBIA aculeata nuda, caudicibus numerosis simplicibus erectis 10—13-gonis, aculeis solitariis floriferis expansis atris.

HABITAT ....

FLORET

Floret Jul. Aug. ♄.

Descriptio. Præcedenti affinis sed fere quadruplo crassior sulcis validioribus et numerosioribus. *Radix* fibrosa. *Caudices* pedales plurimi ex eadem radice, simplices suberecti circiter 12-goni viriles, sulcis pervalidis linea exaratis. *Aculei* atri solitarii contigui expansi vix semunciales floriferi et bracteati. *Bracteæ* numerosiores quam in præcedente alternæ sive sparsæ oblongo-spathulatæ, exsiccatæ lente minime pubescentes. *Folia* mucroniformia minutissima ut in præcedente, sed atra et dura, et omnino naturæ spinarum. *Flores* simillimi præcedenti, sed foliola involucri latiora sunt, et fere spathulato-orbiculata; et petala bicornia sunt, nec palmata. *Filamenta* alba petalis longiora. *Antheræ* didymæ luteæ. Cætera ut in congeneribus.

Euphorbia foliis petiolatis ovato-ellipticis retusis emarginatis, radice tuberosa. *tuberosa.* 15.

Habitat Cap. Bon. Sp. ♃.

Descriptio. Radix tuberosa supra et infra terram, nuce duplo major, subramosa, fibris paucis corticeque fusco instructa. *Folia* subcapitata petiolata patula sive expansa, subovato-elliptica retusa valde emarginata glabra viridia, supra nuda, subtus et ad margines pubescentia; *petiolis* longitudine paginarum, semiteretibus pubescentibus, tinctura purpurascente. *Flores* adhuc non produxit in Europa.

Obs. I received this singular and very distinct species of *Euphorbia* from my friend Mr. Donn, curator of the Botanic Garden at Cambridge, who raised it from Cape seeds, some time since.

Obs. Although I have not seen the fructification, there can be no doubt of its being a genuine *Euphorbia*; as the habit and milky sap abundantly proclaim. It is closely allied to *E. Bupleurifolia*.

Euphorbia inermis, fruticosa, simplex, foliis alternis cordatis recurvis sessilibus diminutis. *cordellata.* 16.

Habitat .... ♄.

Descriptio. *Suffrutex* succulentus erectus subsimplex 1—3-pedalis. *Caulis* teres glaber viridis vix unquam ramosus. *Folia* perpauca parva (3—6-linearia) remota alterna subsparsa sessilia cordata recurva viridia glabra et nuda, et quasi subdecurrentia, marginibus sæpe magis quam disco elevatis. *Flores* in Britannia non produxit ullos.

Obs. I received this very distinct *Euphorbia* from my friend Mr. W. Anderson.

SEMPERVIVUM.

Linn. Gen. Pl. 244. 612.
Juss. Gen. Pl. 207.

CLASSIS ET ORDO.

Dodecandria Dodecagynia.

CHARACTER GENERICUS ESSENTIALIS.

Calyx 12-partitus. Petala 12. Capsulæ 12 polyspermæ.

cuspidatum. 17. Sempervivum foliis linguæformibus acutis viridibus glabris, mucrone niveo bilineari; floribus dense spicatis.

Habitat....

Floret Aug. at rarissime.

Descriptio. Herba acaulis cæspitosa. *Radix* fibrosa perennis. *Folia* radicalia numerosissima, densissime imbricata, orbiculatim nata ut in affinibus at magis erecta, anguste linguæformia acuta vel elliptica carnosa nuda glabra viridia, supra planiuscula subtus convexa mucrone recto setaceo niveo bilineari. *Propagines* numerosissimi subglobosi breviter pedunculati. *Scapus* sive *Caulis* floriferus strictus dodrantalis subangulatus valde foliosus, foliis subdecurrentibus, superioribus sensim minoribus et angustioribus, supremis omnino naturæ bractearum. *Flores* dense spicati sessiles vel subsessiles acuti flavicantes, omnibus partibus fructificationis paucioribus quam in congeneribus, et sæpe circiter septem, sed nunquam sex vel quinque.

Obs. Flores (siccos exceptos) non nunc possideo pro descriptione.

Obs. 2. I have cultivated this very distinct species of *Sempervivum* above ten years, yet never saw its flowers but once; which were upon a plant brought to me by my friend Mr. W. Anderson. Before this I had some suspicion of its being the *Crassula spinosa* of Gmelin and others, which like all genuine *Crassulæ*, has a 5-leaved *calyx*, 5 *petals*, 5 *stamina*, 5 *antheræ*, and 5 *styles*.

Sempervivum cuspidatum is a real *Sempervivum*, both in habit and the number of its parts; but it is probable, nevertheless, that *Crassula spinosa* is only a variety of it, with narrower leaves and a diminished number of stamina and styles, &c.

Many species of the Genus *Sempervivum* vary remarkably in their number of parts of fructification; and some of them even on the same root.

Sempervivum, *Crassula* and *Sedum*, are all very closely allied; and in three genera, between which Nature herself has made but trifling distinctions, I have found it best to refer such of their species to *Sempervivum*, whose number of parts of fructification exceed 5.

CACTUS.

Linn. Gen. Pl. 246. 613.

Juss. Gen. Pl. 312.

CLASSIS ET ORDO.

Icosandria Monogynia.

CHARACTER GENERICUS ESSENTIALIS.

Calyx 1-phyllus imbricatus, superus. Corolla multiplex. Bacca 1-locularis, polysperma.

Cactus compressus articulato-prolifer, erectus, articulis oblongis lanceolatisque, spinis difformibus fulvo-nigris, majoribus divaricatis 3—10-linearibus. *nigricans.* 18.

Habitat .... ♄.

Descriptio. *Caudex* erectus spinosus carnosus articulatus subramosus et per ætatem lignosus. *Rami* articulati adscendentes. *Articuli* oblongi et lanceolati virides carnosi et spinosi; juniores foliosi. *Spini* fasciculati ut in affinibus, crebri primo sordide fulvi, sed denique fulvo-nigri seu nigricantes, difformes; majores valde divaricati 3—10-lineares. *Folia* minutissima ut in affinibus subtus fasciculos spinarum, primo erecta denique expansa et decidua, subulata supra planiuscula, carnosa viridia sesquilinearia. *Flores* non vidi.

Cactus compressus articulato-prolifer, articulis cuneato-obovatis effuso-decumbentibus, spinis difformibus luteis, majoribus erecto-patulis 3—14-linearibus. *humilis.* 19.

Habitat .... ♄.

Descriptio. *Caudex* valde ramosus spinosus carnosus articulatus,

latus, et per ætatem lignosus. *Rami* irregulares effuso-decumbentes articulati. *Articuli* cuneato-obovati virides carnosi et spinosi, juniores foliosi. *Spini* difformes fasciculati lutei crebri, majores erectiusculi seu erecto-patuli 3—14-lineares. *Folia* ut in præcedente. *Flores* non vidi.

strictus. 20. CACTUS compressus articulato-prolifer erectus, articulis ovato-ellipticis, spinis uniformibus brevissimis.

HABITAT .... ♄.

DESCRIPTIO. *Caudex* erectus spinosus carnosus articulatus ramosus, et per ætatem lignosus. *Rami* itidem articulati et erecti. *Articuli* ovato-elliptici virides carnosi et spinosi, juniores foliosi. *Spini* fasciculati uniformes brevissimi seu vix lineares. *Folia* ut in duabus præcedentibus. *Flores* non vidi.

lanceolatus. 21. CACTUS compressus articulato-prolifer suberectus, articulis lanceolatis subinermibus, foliis trilinearibus.

HABITAT .... ♄.

DESCRIPTIO. *Caudex* primo erectus denique suberectus, subinermis carnosus, sed per ætatem ramosus articulatus et lignosus. *Rami* itidem articulati erecti. *Articuli* lanceolati virides carnosi subinermes, juniores valde foliosi. *Spini* fasciculati uniformes brevissimi omnium (excepto *C. cochinillifero*). *Folia* ut in affinibus sed triplo majoribus, seu trilinearibus et ultra. *Flores* non vidi.

OBS. I first received this species from my friend Mr. W. Anderson.

pusillus. 22. CACTUS compressus articulato-prolifer, articulis lineari-lanceolatis subdivaricatis, spinis difformibus, majoribus 3—10-linearibus.

HABITAT .... ♄.

DESCRIPTIO. *Caudex* compressus valde ramosus articulatus spinosus et carnosus. *Rami* articulati plurimi oppositi et alterni, senecti divaricati. *Articuli* anguste-sublanceolati compressi spinosi foliosi virides. *Spini* difformes fasciculati, majores pauciores quam in affinibus seu 1—2 vel 3 patuli sive expansi ex albido-flavicantes 3—10-lineares. *Folia* ut in affinibus sed magna pro ratione magnitudinis articulorum, sive fere trilinearia, viridia. *Flores* non vidi.

OBS. Omnium Cactorum compressorum (*C. curassavico* excepto) sine dubio multoties minimus est.

CACTUS

Cactus decumbens, triqueter, spinis fasciculatis divaricatis subseptenis 2—3-linearibus. *triqueter.* 23.

Habitat ....

Floret .... ♄.

Descriptio. Suffrutex subramosus aphyllus succulentus 2—5-pedalis et ultra. Caulis triqueter (nec trigonus) subramosus carnosus omnino decumbens, angulis rectis (nec undulatis) fasciculato-spinosis. *Rami* pauci alterni pervirides cauli conformes, sæpe remoti, angulis subinde obsolete concavis et fasciculis spinarum approximatarum instructi. *Spini* circiter 7 divaricati pungentes 2—3-lineares sordide fulvi in singulo fasciculo, præterea lana brevissima pulvinata baseos spinarum oculo inarmato vix conspicua. *Flores* nondum in Britannia produxit ullos.

β. Duplo major quam α, et forte species distincta.

Obs. All the above-described *Cacti* I have cultivated many years, except *pusillus*, which I have not possessed alive above three years.

CACÁLIA.

Linn. Gen. Pl. 412. 933.

Juss. Gen. Pl. 178.

CLASSIS ET ORDO.

Syngenesia Polygamia Æqualis.

CHARACTER GENERICUS ESSENTIALIS.

Receptaculum nudum. Pappus pilosus. Calyx calyculatus.

Cacalia foliis alternis carnosis teretibus utrinque attenuatis, caulibusque valde tomentosis. *tomentosa.* 24.

Habitat Cap. Bon. Sp. ♄.

Descriptio. Radix fibrosa. *Caulis* suffruticosus pedalis, superne simplex, basi conferte-ramosus, teres, lana densa vestitus, et valde foliosus. *Rami*, simplices cauli valde conformes, conferti ad basin caulis. *Folia* alterna patula contigua teretia utrinque attenuata et acutiuscula, undique lana nivea densa vestita, juniora paulo incurvata. *Flores* in Europa non produxit ullos.

Obs.

Obs. I first received this new and very distinct species of *Cacalia*, from the Botanic Garden of my friend the late Benjamin Robertson, Esq. of Stockwell in Surrey.

Obs. 2. This gentleman's enthusiasm in favour of the science of Botany, was infinitely greater than is generally understood. He not only made and kept up a Botanic Garden upon a select, liberal, and judicious plan, during his life; but absolutely left by Will, (drawn by a counsellor of eminence, and duly executed by himself) the whole of his extensive property, except a few legacies, to seven trustees (of which number I had the honour to be the third); with complete and absolute power and authority for them to appropriate the whole of it, to *the establishment and continuance of a permanent Botanic Garden*; upon a scale of immense magnitude; by the name of the "*Stockwell Botanic Garden.*"

This Will however, unfortunately for the sciences of Botany and Horticulture; was never permitted to be carried into effect; but was declared formally, after a very short hearing, by the Lord Chancellor Eldon, to be *null and void, as to the bequest of the garden.* In consequence of which, the whole of the testator's property, except some inconsiderable legacies, reverted to his heirs at law.

Mr. Robertson commenced life in circumstances, and with prospects, of the most humble kind. He inherited nothing from his relatives or friends; but by a well-planned, patient, and assiduous adherence to his mercantile and other concerns, acquired a fortune of very great magnitude; and died in the month of December 1800, unmarried, and without issue, at an advanced age; without altering or revoking the abovementioned Will.

DISSERTATIO SEXTA;

SIVE

TECHNICI BOTANICI:

CONTAINING

OBSERVATIONS

ON

SEVERAL TECHNICAL TERMS

USED

BY LINNÆUS AND OTHERS

IN THE SCIENCE

OF

BOTANY.

TO

ALL WHO STUDY

THE PLEASING AND PREVALENT

SCIENCE OF BOTANY,

THE FOLLOWING DISSERTATION

ON THE

TECHNICA BOTANICA

IS INSCRIBED,

WITH THE MOST PROFOUND RESPECT,

BY

THE AUTHOR.

Without study this art is not attained, nor fit to be attained.

HOLYDAY.

PREFACE.

The following Dissertation was originally intended to be given to the Linnean Society of London. It is composed of remarks on several of the technical terms in the science of Botany, invented and used by the great Linnæus and others; and which have appeared to me, in the course of my botanical researches, to be either obscure, and of difficult comprehension; (not to say uncertain and ambiguous,) or in some measure misapplied: or, lastly, synonymous with others which are likewise in use at this time.

Now as brevity and perspicuity in the technical definitions of an intricate science, are very properly considered as its vital organs, or principal springs; the fewer they are in number, the shorter in themselves (if adequate to the definition of every thing wanted)—and the more explicit and contrasted with each other; the easier will the investigation of that science become; the more readily will its technics fix themselves, and remain engrafted in the memory of the student; the more clearly also will he be enabled to distinguish them from each other; and doubt and difficulty will vanish with his efforts to subdue them.

But, on the contrary; if they are either of sesquipedalian structure; too numerous, and thereby often becoming unavoidably obscure and synonymous; or at least blending with, and approximating too nearly to each other; then it is evident that the science so inflated, is encumbered with unnecessary prolixity and exuberance; and the subjects it envelops are rendered of difficult, ambiguous, and uncertain determination.

However, it must be clearly understood, that I by no means assert the great science of Botany to be overwhelmed in this

species

species of intricacy and confusion. But I have no hesitation in asserting, that its technical definitions are at present somewhat too numerous; and that several of them are likewise too nearly allied; and, lastly, that some of them might be expunged and weeded out of it, to the advantage and perspicuity of those which should remain. Yet this salutary pruning should not be performed by any one; but by the able and judicious hand of a master only; and even by him with the greatest circumspection and care.

In this manner the science of Botany is capable of an increase of simplicity and vigour; by reducing the number of its moveable points: like that famous science which teaches the doctrines of military tactics: and which, by a judicious simplification of the motions which formerly impeded its progress, is well known to have increased the vigour, celerity, and efficacy, of those which at present constitute its formidable power.

Numerous as are our elementary works on the science of Botany, we are still in want of one by a master's hand, or a new edition of Professor Martyn's, in which all the superfluous and unnecessary terms which at present clog, or in the least overload it; shall either be omitted entirely; or rendered synonymous with others, which are more concise, and more generally understood. Happy indeed shall I be if these observations shall stimulate any one, sufficiently adequate to the task, to undertake and complete such a business. To such a one I will take the liberty of suggesting a few ideas of my own on the subject, in this place.

First, I would recommend the more frequent *compounding* of *well-known terms,* to express the shapes of single parts, which partake of two, but yet are distinct from, although intermediate between both, after the manner of *folium cordato-ovatum, ovato-cordatum,* &c. &c. (*a*)

(*a*) I am aware that this *is* occasionally done by authors: but have they sterling authority for it?

Secondly, I would strongly recommend the more frequent *reversing of well-known terms*, by means of the monosyllable *ob*, (*pro obversè*), such as *obcordatum*, &c.: and here I would introduce *obclavatum*, *obsubulatum* (*a*), and others not hitherto reversed, particularly *obcuneiforme*, which last would express pretty accurately, and thereby render useless, what Linnæus and others have meant by that obscure, and very rarely used term, the *folium parabolicum*. We have various precedents in favour of the reversing of *cuneiforme*, well known, precisely parallel, in frequent use, and familiar to the ear of every Botanist; viz. *obovatum*, *obcordatum*, &c. Thus should we shorten the science of one term, which perhaps was inadvertently introduced into it. Instances of the *folium parabolicum* are of such very rare occurrence, that I can only call to memory three plants which have any pretensions to leaves of that shape, viz. two species of *Hæmanthus*, and the junior leaves of my *Aloe nigricans* (*b*). All broad-leaved bulbous plants, with blunt points, indeed, on their first emerging above the surface of the ground, have more or less of this outline; but they lose it speedily by becoming too much elongated.

Thirdly, I would recommend the further introduction of *dimidiatives*, (if such is an allowable term) (*c*). One precedent only in favour of *dimidiation* has hitherto appeared in the science of Botany; but then it was invented and used by a

(*a*) Leaves of these shapes occur in the Genus *Mesembryanthemum*, &c.

(*b*) *Aloe nigricans* of my new arrangement of the Genus *Aloe*; vide *Linn. Tr. vol.* vii. now in the press.

(*c*) In the following Latin verse on the calyx of the Genus *Rosa*, *dimidiation* forms a part.

"Quinque sumus fratres, sub eodem tempore nati,
"Bini barbati, bini sine crine creati;
"Quintus habet barbam, sed tantum dimidiatam."

Botanist

Botanist we may safely follow: I mean Mr. Dryander, who, amongst other terms, invented and defined that of *semicordatum*, in *Linn. Tr. vol.* i. *p.* 158. as follows: "Folium *semicordatum*, cujus alter lobus obliteratus." If the term *semiovatum* was admissible, defined as follows, it would exactly express the shape of the abovementioned *folium parabolicum*, viz. *superior pars folii ovati transversaliter sectum infra medium.* Perhaps this might be preferable to *obcuneiforme*, as explained before. I leave the decision to more able judges.

If *folium semilanceolatum*, and *semiellipticum*, defined to be *more than the upper halves of those leaves transversely cut*, were admissible, they would very happily express the exact shapes of the leaves of several species of *Aloe*, which are not *linguæform*, and much too broad at the base to call *subulate*, and too much truncated there to call *lanceolate*, *elliptic*, or *ovate*. The leaves of all *Aloes* are nearly plane above, and convex beneath, with broad bases, which embrace the stem very closely, and in a densely imbricated alternate manner; and they are all very gradually attenuated from the base to a cuspidated apex: I know not of a single exception to these remarks, not even in that blunt-leaved section of the Genus which I have called *Curvifloræ* (*a*), whose leaves, although blunt, have a sort of terminal mucro. But having now dwelt sufficiently long on preliminary matters, I shall proceed to the commentation promised in the title of the present Dissertation.

(*a*) In my new arrangement of the Genus *Aloe*, in *Linn. Tr. vol.* vii. now in the press.

TECHNICA BOTANICA.

1. *Folium lineare.* This is defined to be a very narrow plane leaf, slightly attenuated at each extremity. But if this attenuation is the least considerable, which is often the case, it becomes exactly what might be termed *lanceolato-lineare.* Would it not therefore be to the advantage of the science of Botany to call such leaves *linear* as are attenuated only at the *apex*, and of the necessary latitude? Those which are attenuated at both extremities might be called *cuneato-linearia*, or (if it was not too long) *lanceolato-linearia.* When sufficiently broad they are called *lineari-lanceolata.* Any considerable dilatation, from the middle to the base of a *linear* leaf, converts it into a *subulate* one. If convex beneath, it also becomes *semicolumnar.* If convex both beneath and above, it becomes *columnar.* If filled with flesh or pulp between its coats, but not sufficiently to give convexity to either surface, it is simply *folium lineare carnosum* seu *pulposum*, as in some *Antherica.* If it is *carnose* or *pulpose*, and wider on the flattened sides than above or beneath, and not carinated, it is the *folium lineare compressum.* If *carinated*, it becomes *triquetrous*, or *trigonous* (not triangular, for that would be a *plane* leaf). If grooved above, it becomes a *canaliculated leaf.* Instances of all these kinds of *linear* foliage occur often in *Mesembryanthema.*

2. *Folium papulosum, papillosum, verrucosum, tuberculatum, vesiculatum*, and even *lenticulatum*, are all very nearly synonymous, and not sufficiently contrasted with each other.—I am at a loss to discriminate among so many terms whose imports are so nearly alike. Their number admits of undoubted reduction (*a*). I have used another term nearly allied to them,

(*a*) *Papulosum* best expresses the markings which are soft and almost even with the surface; the other terms, especially *verrucosum*, might be used for the larger and more fleshy, or harder sorts of elevated punctation; *tuberculatum* more particularly applies to the genus *Lichen.*

them, viz. *pustulatum*, for that large tender whitish blister-like swelling, at the inner base of the leaves of several *Mesembryanthema acaulia*.

3. *Folium hamosum*, *aduncum*, and *uncinatum*, are not sufficiently, if at all distinct; at least I confess myself unable to separate them. Perhaps two of them should be retained; one to express a hooking outward, the other inward: yet this might be more readily defined by the epithet *intus* or *extus*, or by *apice incurvum* vel *recurvum*.

4. *Folium pertusum*, *perforatum*, and *punctatum*, Professor Martyn has observed, are nearly synonymous. I would only retain the first to express a sunk, hollowed, or as if punched-in sort of punctation, and the last to define dots which are either quite superficial, or nearly so, and drop the term *perforatum* entirely: or else I would define it to mean a sort of illuminated punctation, if viewed between the eye and the light; as in *Hypericum perforatum*, &c.

5. *Folium turbinatum*, would perhaps be proper for the exterior covering of my *Mesembryanthema minima*. This term does not approach to *cuneiforme*, because the former is somewhat *top-shaped*, the latter *plane*. *Turbinated calyces*, *germina*, and *capsulæ* frequently occur.

6. *Folium ellipticum*. This term is sufficiently distinct from *ovale*, although some suppose them to be synonymous. The former is precisely expressed by that eccentric elongated kind of oval which astronomers suppose the orbits of the comets to describe. *Ovatum* agrees with *ovale* in sound, but in little else; it expresses exactly the longitudinal section of the egg of the common hen, and I would confine it to that egg; because those of other birds vary in their *outlines*, as well as in those numerous and beautiful markings (*a*), which are so elegantly depicted on their surfaces.

7. *Folium*, or *petalum tessellatum* and *reticulatum*, are very nearly allied, yet both ought to be retained, and both are species of *venosum*; but I would define the former to be a sort of network, whose meshes or chequerings are nearly equal, or at least much more so than the latter; which are usually very vague: as in the petals of *Geranium striatum*. Instances of the former are *Amaryllis reticulata*, and

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(*a*) I have invented a set of terms, defining those markings, for the purpose of distinguishing the eggs of British birds from each other, in a specific manner; an account of which I may possibly lay before the public in some future *Dissertation*.

Frittillaria

Frittillaria meleagris. I conceive *striatum*, *lineatum*, and *nervosum*, to differ from *tessellatum* and *reticulatum*, in only wanting the connecting, chequering, or transverse bars. How far the first three terms are distinct from each other admits of doubt.

8. *Confertus*, *congestus*, *densus*, *glomeratus*, *conglomeratus*, and *aggregatus*, are really not worthy separation, because the first alone might answer every purpose, if occasionally aided by the very qualifying epithets *sub* and *valde*; or else by the influence of a superlative or diminutive term, as *confertissimus*, *confertulus*.

9. *Tortus*, *tortilis*, *tortuosus*, *contortus*, and even the sesquipedalian *contortuplicatus*, are so nearly synonymous, that the first and shortest (and therefore most eligible), might, I apprehend, be permitted to supersede all the others, especially if aided, when necessary, by the accommodating epithets *sub* and *valde*.

10. *Rhombeum*, *deltoides*, and *deltoideum*, are one and the same; but *trapezium* is distinct. As to *Mesembryanthemum deltoides*, Dillenius probably so named it, because a transverse section of its *triquetrous pulpose* leaves, gives an exact representation of the Greek letter delta. But the outlines of each of its three nearly equal *paginæ*, give a pretty good figure of a *rhombus*, the two lateral angles of which approach nearer to each other than the apex and base approach each other: these lateral angles are also nearer to the *base* than they are to the *apex*. Whereas in *trapezium*, which is a sort of irregular square, the leaves are *plane*, their angles, although not quite æquidistant, are much more so than in *rhombeum*, and their bases and apices are scarcely more distant from each other, than their two margins at the angles are distant from each other; that is, they are nearly as broad as long. *Adiantum trapeziforme* is an example of this species of foliage.

11. *Cernuus* and *pendulus* appear to me to be perfectly synonymous.

12. *Nutans* and *declinatus* are nearly in the same predicament; and it is sometimes difficult to separate them sufficiently.

13. *Rectus*, *erectus*, and *strictus*, are almost synonymous. The first might answer every necessary purpose, if qualified occasionally by its superlative and diminutive, or what is tantamount, by the convenient auxiliaries *sub* and *valde*. *Laxus* and *flaccidus* have been opposed to the above terms by some, but I conceive erroneously; for the opposites of the two last terms appear to me to be *fragilis* or *rigidus*, especially the

 former.

former. *Debilis* I take to be distinct from the opposite of *rectus*, &c. and its opposite I suppose to be *robustus*. Perhaps *rectus* might be employed to express any thing destitute of flexion, although not perpendicular to the horizon; and *erectus* might be used for parts destitute of curvature, which are perpendicular, or nearly so. In this last sense *strictus* is generally used:—or *rectus*, qualified by auxiliaries, might express any thing erect; and *strictus* might be applied to parts destitute of flexion, whether erect or not; and I think this last way would be the best, and *erectus* might be dropped entirely.

14. *Brachiati rami*, *decussati rami*, and *oppositi rami*, are scarcely worth distinguishing, at least as defined by Professor Martyn, and I would retain only *decussati*. The three last terms apply best to *leaves*, the first to *branches*. *Oppositi* seem distinct enough at first sight from *decussati*; but they are not; for if they signified simply *opposite*, without any *decussation*, they would then be absolutely synonymous with *distichi*.

15. *Procumbens* and *prostratus*, I confess myself incapable of separating in any distinct manner.

16. *Reflexum*, *refractum*, *retroflexum*, and *retrofractum*, appear to be of significations so nearly alike, that I am at a loss to distinguish them in any manner, or by any words, that shall not be liable to misconstruction. *Refracted* should seem to imply a greater or more forcible degree of bending downward than *reflected*, yet they are not worth separating. The last three may be safely discarded.

17. *Lana* is defined to be, "pili curvi densi, *Dill. Pl.*—servans plantas ab æstu nimio," *Philos. Bot.* Perhaps this idea is erroneous. Analogy, at least in the animal creation, teaches the very reverse; namely, that it should be to protect vegetables as well as animals from too much *cold*. In all probability it likewise answers the purpose of absorbing more of the humid and dewy particles of the atmosphere, through its capillary points, than could otherwise be acquired for the nutrition of the plants which produce it. Woolly-leaved plants are known to resist the pining effects of drought with much less injury than those which are destitute of that covering. I cannot call to memory one single instance of either a marsh, or an aquatic plant, whose leaves are clothed in wool. But multitudes of vegetables, with lanate leaves, are well known to abound spontaneously in the dry and sandy deserts at the Cape; where, for purposes unknown to man, and quite beyond the sphere of his research, the Creator of the Universe has denied them for nine whole months in every

year the comfort of refreshing showers. The three remaining months however, make up for this excessive drought;—they usually compose a series of uninterrupted rains, during which another and very different race of vegetables from the foregoing, namely the bulbous-rooted tribes, (which are almost always destitute of every species of *wool* or *pubescence*) shoot up their leaves, flowers, and seeds, all of which regularly wither and fall off at the return of the dry season; this no sooner sets in, than an innumerable host of succulent (*a*) plants (surcharged with sap) and others with *lanate* leaves, (particularly the great genera *Protea*, *Xeranthemum*, *Gnaphalium*, &c.) all natives of the same arid plains; all copartners in the same vicissitudes; prepare for inflorescence; replete with strength and humidity acquired from the rains, and proof against assailing want, and all the scorching powers of heat and drought.

I have one more remark concerning plants with woolly leaves; it is, that they are usually *entire*. On the contrary, and for purposes exactly opposite, aquatic vegetables and others which delight in moisture or shade, are often very much divided. Examples of this are observable in great numbers of the natural order *Umbelliferæ*, and also in *Ranunculus aquatilis*, and its several varieties. Many aquatic plants have those leaves which grow under the water much more finely divided than those which grow above its surface. On the contrary, many alpine plants are observed to have their upper leaves more cut than their radical ones: but it is time this article was dismissed—I will therefore proceed to the next, which is also the last.

17. *Professor Martyn*, under the article *twining*, in his *Language of Botany*, says, that "a stalk of *Convolvulus*, or *Kidney Bean*, twines from the left, or east, by south, towards the west; and that a *Honeysuckle* or *Hop* takes a contrary direction.—Who will reveal the cause of this difference?"

(*a*) Succulent plants are rarely woolly, but, when so, resist the effects of drought astonishingly; they usually resist it (like the leaves of evergreens) by virtue of their hard or thick epidermis, which retards extremely the evaporation of their abundant stock of juices; this is very observable in the genera *Aloe* and *Agave*. On the contrary, the texture of both leaves and shoots in aquatic vegetables, is soft, loose, and spongy, and admits the uninterrupted exhalation of immense quantities of humidity. *Water lilies*, &c. begin to shrink up almost as soon as they are placed on land.

On

On this head I shall venture to hazard an opinion; a hypothetical one it must be confessed, but it ought not to be called bad until a better is advanced to confute it. It is sufficiently well known that *Convolvuli*, and *Kidney Beans*, are natives of warmer climates, love heat more, and thrive better in it, than *Honeysuckles* and *Hops*, which are more properly natives of groves and shady places in the temperate parts of the world, and I believe are never found within the tropics, where the former principally exist. Now is it not therefore *probable*, that by some uniform intuitive effort, or instinctive, or elective choice, (call it which you will), the shoots of the *Convolvuli* and Kidney Beans, (naturally preferring heat to cold) on their first emersion from the earth, make for the *southern* skies?—discerning that from thence descends to earth, the greatest light, and heat, and strength, and power, to vegetable life. An elective choice once adopted, the uniformity and simplicity of nature's laws permits not to be abandoned; they therefore move on, they and their posterity, in the paths first selected, *ad infinitum*. On the other hand, and for reasons exactly opposite, the *Honeysuckles* and *Hops*, preferring milder and more humid skies, and cooler gales, and rejecting the pernicious influence of too much light and solar heat, with its attendant droughts, writhe first towards the *northern* hemisphere, in search of temperate humidity; and ever afterwards pursue that course.

ERRATA ET CORRIGENDA

IN LEPIDOPTERA BRITANNICA.

Page 8 line 11 *for* the preceding and the following, *read* and the two following

Page	Line	For	Read
13	42	mas	mare
15	43	fulvo circiter tres	fulva circiter tribus
16	11	duabus	duobus
21	39	ocellis	ocelli
29	15	nigræ	albæ
48	14	nigra	nigro
51	10	fulvis	fulvæ
53	40	medio geminato	media geminata
62	40	duabus	duobus
71	15	fire	firey
89	41	fuscis nebulosis	fusco-nebulosis
118	32	striga anteriori	strigæ anterioris
120	9	nigri	nigra
120	41	subcetaceus	subsetaceus

IN MISCELLANEA NATURALIA.

Page	Line	For	Read
22	8	quadrifido	quinquefido
31	5	incrassatis	incrassati
60	31	libero connato	liberum connatum
85	5	bono	bona
131	31	*after* unilocularis	*add* calyptrata valvis 3—6 deciduis
141	2	annua	bienni
175	28	brevioria	breviora.

If still further errors have escaped correction, it is hoped the learned reader will attribute them to the great difficulty of making perfect so technical an undertaking.

For, if the means be just, the conduct true,
Applause, in spite of trivial faults, is due. Pope.